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**TRANSPORTATION SCIENCES CENTER  
ACCIDENT RESEARCH GROUP**

Calspan SRL Corporation  
Buffalo, New York 14225

**CALSPAN CASE NO. CA94-31**

**VEHICLE #1 - 1992 TOYOTA CAMRY LE  
DRIVER SIDE AIR BAG  
DRIVER FATALITY**

**ON-SITE INVESTIGATION**

**LOCATION - STATE OF FLORIDA**

**CRASH DATE - [REDACTED], 1994**

Contract No. DTNH22-94-D-07058

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590



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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

# TECHNICAL REPORT STANDARD TITLE PAGE

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15. <i>Supplementary Notes</i> On-site investigation of a crash involving an air bag equipped 1992 Toyota Camry LE in which the driver suffered fatal injuries.			
16. <i>Abstract</i> <p>An on-site investigation was conducted into a one vehicle crash which occurred in the month of ██████, 1994 in the afternoon hours. The weather at the time of the crash was dry and overcast. The crash occurred on a divided two lane, asphalt, curved roadway which was located within the confines of a senior citizen gate community. The posted speed limit was 40 km/h (25 mph).</p> <p>Vehicle #1, a 1992 Toyota Camry LE was equipped with a driver side air bag departed the right side of the roadway, traveled over the adjacent grass shoulder and struck a small tree stump with the right front tire and lower side plane. The vehicle continued in a straight trajectory for another 10.5 m (35') and struck a 28.9 cm (11.1") diameter black olive tree with the center frontal plane. This impact resulted in the deployment of the driver side air bag. The CDC for the first impact was 12-LYES-1 and 12-FCEN-3 for the second impact. The delta V computed by the SMASH program for the second impact was 50 km/h (31 mph). The vehicle was towed due to damage.</p> <p>The driver was an eighty year old female who was 154.9 cm (61.0") tall and weighed approximately 63.5 kg (140 lbs.). She was improperly wearing the available three point restraint manual belt system at the time of the crash with the shoulder belt worn under her left arm. At the time of the second impact sequence, the driver's upper torso had moved forward and was against the air bag module cover at the initiation of the air bag deployment sequence. Her contact with the air bag module cover partially trapped the air bag resulting in a 35.6 cm (14.0") long tear of the air bag fabric.</p> <p>The driver sustained multiple facial abrasions (air bag), abrasions and contusions of the chest and abdomen (torso restraint belt), bilateral fracture of the ribs 1-10 laterally with hemothorax (steering wheel/air bag), transection of the aorta (steering wheel/air bag), and separation of the thoracic spine between 3<sup>rd</sup> and 4<sup>th</sup> vertebra (steering wheel/air bag). The EMS arrived on scene and pronounced the driver deceased. She was transported to the medical examiner's office where an autopsy was performed.</p>			
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**Calspan Case No. CA94-31**  
**Single Vehicle Run-off Roadway**  
**Fatal Air Bag Crash**  
**State of [REDACTED]**  
**[REDACTED], 1994**

**Background**

The National Highway Traffic Administration was notified by the local police department of a fatal crash involving a deployed driver side air bag which reportedly failed (i.e., air bag fabric tear) during the crash. The NHTSA was notified 33 days after the crash and subsequently notified the Calspan Crash Reconstruction Team. A Calspan Reconstructionist was assigned and was on-site six days after being notified. The vehicle was impounded by the police in a secured storage building pending this investigation. The air bag module was subsequently removed from the vehicle and sent to the NHTSA's Office of Defect Investigation for analysis. The police department was instrumental in obtaining permission from the family and the State Attorney's Office to air bag module from the vehicle. Their assistance in this investigation was invaluable.

**Summary**

An on-site investigation was conducted into a single vehicle crash which occurred in the State of Florida in the month of [REDACTED], 1994 in the mid afternoon hours. Vehicle #1, a 1992 Toyota Camry LE was equipped with a driver side air bag which deployed during the crash.

The crash occurred within the confines of a large senior citizen "gate" community where access was controlled by a security check point. The travel lane width was exaggerated at 6.3 m (21.1') for the eastbound lane (direction of travel of Vehicle #1) and 6.9 m (23.1') wide for the westbound travel lane. The eastbound lane consisted of a left curve, dry, level asphalt surface with a negative 4.4 percent cross slope (southerly direction). The travel lanes were separated by a raised grass median which measured 3.9 m (12.9') wide. The posted speed limit was 40 km/h (25 mph).

Prior to the crash site, the vehicle traveled through a section of the roadway which was reportedly being sprayed by errant lawn sprinklers. It is unclear whether the water from these sprinklers distracted the driver and required her to turn on the windshield wipers as the windshield wiper arms were noted in a vertical position at the vehicle's final rest position (FRP) as shown in photograph #14 on page A-7.

The roadway profile leading up to the point of departure included a short straight section of roadway which made a transition to a left curve. The radius of curvature decreased from the start

of the curve which measured 293.2 m (962.2') to 109.4 m (358.9') at the initial point of impact (POI) with the tree stump.

The vehicle departed the right side of the road (the south roadway edge), traveled over the adjacent grass shoulder and struck a small tree stump (refer to photograph # 8 on page A-4) with the right front tire and lower side plane. This resulted in deformation of the wheel and sideswipe damage down the right side of the vehicle. The vehicle continued in a straight trajectory for 10.5 m (35') and struck a 28.9 cm (11.1") diameter black olive tree with the center frontal plane. The vehicle rebounded approximately 0.9 m (3.0') rearward to its final rest position (FRP) as shown in on-scene photographs #13 and #14 on page A-7. There were no pre-impact skid marks present in the grass shoulder prior to the first impact.

The driver was an eighty year old female who was 154.9 cm (61.0") tall and weighed approximately 63.5 kg (140 lbs.). She was improperly wearing the available three point manual belt system at the time of the crash with the shoulder belt incorrectly worn under her left arm. A paper clip attached to the torso belt (refer to photograph #62 on page A-31) probably provided additional belt slack for the driver's comfort by limiting the length of belt spool-up at the D-ring. The vertically adjustable D-ring was set in the lowest position at the time of the crash.

Vehicle deceleration from first impact sequence involving the tree stump resulted in the forward movement of the driver's upper torso toward the steering wheel. The driver seat was adjusted 8.4 cm (3.25") rearward from the full forward position at the time of the crash. The seat back support measured 50.8 cm (20.0") rearward from the post impact position of the steering wheel hub.

At the time of the second impact sequence, the driver's upper torso had moved forward and was against the air bag module cover. The contact sequence with the air bag module cover partially trapped the air bag against the air bag module flap and air bag module housing as it was deploying. This resulted in a 35.6 cm (14.0") long tear of the air bag fabric which was located along the left instrument panel surface of the air bag (refer to photographs #52, #69 on pages A-26, A-36).

The driver continued to load against the air bag and steering wheel and displaced the steering wheel rim and steering column. The steering column shear plate was displaced 5.8 cm (2.3") at the right shear capsule and 5.3 cm (2.1") at the left shear capsule (refer to photographs #44, #45 on pages A-22, A-23). The top portion of the steering wheel rim was displaced forward 6.4 cm (2.5") as shown in photograph #46 on page A-23.

This contact sequence resulted in the following internal thoracic injuries:

- Bilateral fracture of the ribs 1-10 laterally with hemothorax,
- Transection of the aorta,
- Separation of the thoracic spine between 3<sup>rd</sup> and 4<sup>th</sup> vertebra.

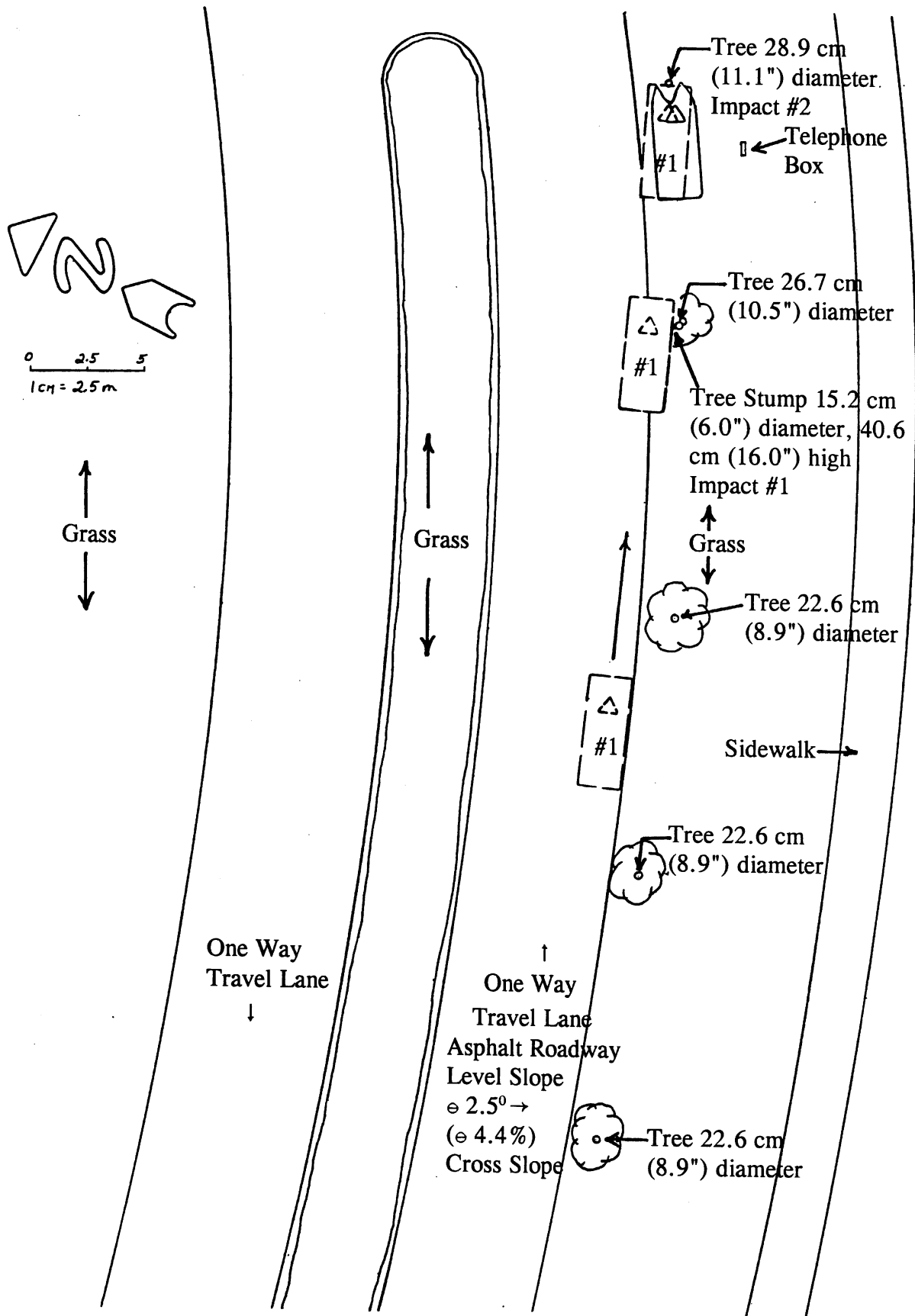
The driver sustained multiple facial abrasions (i.e., nose, left eye lid and cheek, lips, chin and right lower cheek) which were attributed to contact with the air bag. Red lipstick and tissue transfers observed in the upper left quadrant of the air bag correlated with these injuries.

The driver's right foot and leg contacted the toe pan which intruded 17.3 cm (6.75") longitudinally into the occupant compartment. This resulted in an open fracture dislocation of the right tibio-talar joint. Her left hand was propelled forward and upward by the air bag the steering into the windshield as noted by the 5 cm (2") diameter typical spider web contact pattern. As a result of this contact she sustained a closed fracture of the left forearm (proximal to the wrist) and a 1 cm (0.4") horizontal laceration over the dorsum of the left hand. She loaded the torso belt which resulted in abrasions and contusions of the lower chest and upper abdominal area with a small capsular laceration of the spleen.

The driver came to rest in the driver seat with her upper torso and head slumped against the left front door. Her left foot was on the floor directly in front of the seat and her right foot was in the vicinity of the accelerator pedal. The EMS arrived on scene and pronounced the driver deceased. She was transported to the medical examiner's office where an invasive autopsy was performed.

Vehicle #1 sustained contact damage to the right front wheel, the lower right side plane as a result of contact with the tree stump and the frontal plane during the impact with a tree. The Collision Classification Codes (CDC) for the two impacts were: 12-RYES-1 (impact #1) and 12-FCEN-3 (impact #2). The maximum crush value for the second impact was 78.5 cm (30.9"). The SMASH reconstruction program calculated Vehicle #1's impact speed and delta V as 50 km/h (31 mph).

CRASH SCENE SCHEMATIC  
Calspan Case No. 94-31



<b>CRASH DEMOGRAPHIC DATA</b>	
Location:	State of Florida
Area/Type:	Residential/ senior citizen gate community
Investigating Police Agency:	Local police department
Accident Type:	Right roadway departure with two tree impacts
Air Bag Vehicle Driver Injury Severity:	AIS-5 (critical)
<b>AMBIENCE</b>	
Viewing Conditions:	Daylight
Weather:	Cloudy
Road Surface:	Dry
<b>HIGHWAY</b>	
Type:	Local
Number Of Lanes:	2 lanes
Width:	6.3 m (21.1') eastbound/ 6.9 m (23.1') westbound
Surface:	Asphalt
Median:	Raised grass which measured 3.9 m (12.9') wide
Edge:	A level grass shoulder adjacent to the asphalt roadway surface
Vertical Alignment:	Level
Horizontal Alignment:	Left curve with a negative 2.5 degrees (-4.4 percent) cross slope toward the south roadway edge
Estimated Coefficient Of Friction:	1.0 $\mu$ for the roadway/ 0.8 $\mu$ for the grass shoulder
Traffic Density:	Not reported



<b>TRAFFIC CONTROLS</b>	
Signals:	None
Signs:	None
Markings:	Solid white edge line on the side of the eastbound travel in poor (worn) condition
Speed Limit:	40 km/h (25 mph)
<b>VEHICLE DESCRIPTION</b>	
Description:	1992 Toyota Camry LE
V.I.N.:	JT2SK12E7N0 (serial # omitted)
Color:	White
Odometer:	57,281 km (13,594 miles)
Engine:	2.2 L
Transmission:	3 speed automatic
Steering:	Power steering
Brakes:	Power assisted front disk pads and rear drum brakes
Padding:	Soft edge steering wheel rim, sunvisor, seats, roof liner, door panels and arm rest, upper and mid instrument panel, knee bolster.
Active Restraints:	Three point manual lap and torso restraint belts in the four outboard seat positions, lap belt in the center rear seat position
Passive Restraints:	Driver side supplemental restraint system (SRS)
Defects:	None
Tow Status:	Towed due to vehicle damage

## **VEHICLE DAMAGE**

### **Exterior**

Contact damage to Vehicle #1 was noted along the right side plane and the frontal plane as the result of impacts with two trees. The first impact involved contact with a 40.6 cm (16.0") high

tree stump (impact #1) which began at the right front wheel and continued along the lower right side plane in a sideswipe pattern for a distance of 245.1 cm (96.5"). The contact height on the side of the vehicle measured [40.6 cm (16.0")] from the ground which was consistent with the height of the tree stump. The maximum crush for this impact was 3.8 cm (1.5") along the lower right front fender just behind the right front tire (refer to photographs #29, #30 on page A-15). Components damaged included: the right wheel and tire; the right front fender; and the right front and right rear door surfaces.

The second impact sequence involved the frontal plane of the vehicle and a 28.3 cm (11.1") diameter black olive tree. Direct contact began 7.6 cm (3.0") right of the vehicle centerline and displaced the bumper rearward 78.5 cm (30.9") at maximum crush. Components damaged in the crash included: the bumper; grille; hood; both front fenders; radiator; left and right headlight assemblies; windshield; and roof (refer to photographs #18-#32 on pages A-9 through A-16). The left side wheelbase was reduced in length by 13.0 cm (5.1") and the right side wheel base was reduced 2.0 cm (0.8").

The following tables list crush values for both impacts:

Impact #1 Right Side Plane Crush:	C <sub>1</sub> = 0.3 cm (0.1")	C <sub>4</sub> = 0.3 cm (0.1")
	C <sub>2</sub> = 0.3 cm (0.1")	C <sub>5</sub> = 0.6 cm (0.3")
	C <sub>3</sub> = 0.3 cm (0.1")	C <sub>6</sub> = 3.8 cm (1.5")
Impact #2 Front Bumper Crush:	C <sub>1</sub> = 26.6 cm (10.5")	C <sub>4</sub> = 78.5 cm (30.9")
	C <sub>2</sub> = 39.1 cm (15.4")	C <sub>5</sub> = 38.3 cm (15.1")
	C <sub>3</sub> = 71.6 cm (28.2")	C <sub>6</sub> = 13.9 cm (5.5")

**Repair Cost:** The police accident report estimated vehicle damage as \$4,000.00. The vehicle was towed due to damage and was impounded pending this investigation,

#### CDC

Impact #1, Tree Stump	12-RYES-1
Impact #2, Tree	12-FCEN-3

#### Interior

The seat was adjusted 8.4 cm (3.3") rearward from the full forward position and 15.5 cm (6.1") forward of the full rearward position at the time of the crash. The seat back rest was reclined 18 degrees rearward from the vertical position and measured a horizontal distance of 50.8 cm (20.0") rearward from the post impact position of the steering wheel hub.

The left side of the windshield contained a typical spider web glazing fracture pattern which was the result of contact by the driver's left hand. It was located 39.4 cm (15.5") left of the vehicle centerline and 20.3 cm (8.0") above the instrument panel (refer to photograph #40, #41 on pages A-20, A-21).

The upper portion of the steering wheel was deformed forward and downward a longitudinal distance of 6.4 cm (2.5"). The steering column was displaced forward 5.8 cm (2.3") and 5.3 cm (2.1") at the right and left shear capsules, respectively. This was the result of contact by the driver's upper torso during the second impact sequence (refer to photographs #45-46 on page A-21, A-22).

There were two indentations on the knee bolster which were attributed to contact by the driver's knees. The right knee contact measured 7.6 cm (3.0") wide and was located 34.1 cm (9.5") left of the vehicle centerline. The left knee contact also measured 7.6 cm (3.0") wide and was located 55.9 cm (22.0") left of the vehicle centerline (refer to photographs #55-57 on page A-28, A-29).

The toe pan below the left instrument panel was intruded 17.3 cm (6.75"). The driver's right foot probably disengaged from the accelerator pedal as the result of the first impact sequence and loaded the intruding toe pan during the second impact sequence. This resulted in an open fracture dislocation of the right tibio-talar joint.

The center instrument panel in the vicinity of the heater controls was displaced inward. This area measured 5.1 cm (2.0") in length and was located 8.9 cm (3.5") left of the centerline and was attributed to contact by the driver's right hand and forearm (refer to photograph #59 on page A-30).

There were white hair fibers embedded in the fabric of the head rest which was attributed to contact by the driver's head during her rebound kinematic pattern following the second impact. This contact area measured 20.0 cm (8.0") laterally and 8.9 cm (3.5") vertically.

The driver side air bag and air bag module air bag were damaged during the deployment cycle which was attributed to contact by the driver's upper torso. The underside of the upper flap of the air bag module cover was abraded over a 2.5 cm (1.0") area located 6.0 cm (2.4") right of the left vertical edge and 6.4 cm (2.5") above the horizontal tear seam line (refer to photograph #49 on page A-25).

The air bag was torn on the instrument panel surface along the left upper quadrant. The tear measured 35.6 cm (14.0") in length and extended from the left vent port downward (refer to photographs #52-#54 on pages A-26, A-27). The cause of the tear appeared to have been the result of interaction by the expanding air bag with the air bag module compartment wall and air bag module flap.

Two red lipstick imprints and a tissue transfer were noted on the air bag in the upper left quadrant near the periphery (refer to photograph #42 on page A-21). These contact marks covered an area which measured 5.1 cm (2.0") laterally and 11.4 cm (4.5") vertically. This was attributed to contact with the driver's facial/chest area during the SRS deployment sequence.

There were three areas of bodily fluid transfer marks on the front of the air bag. These marks were located in the upper right quadrant and measured 1.9 cm, 2.5 cm, and 3.8 cm (0.75", 1.0", and 1.5").

The outboard vertical surface of the driver seat back support was abraded by the torso belt during the second impact sequence. The narrow abrasion measured 3.3 cm (1.3") in length on the side surface and continued 5.8 cm (2.3") onto the front surface. It was located 21.3 cm (8.4") down from the top of the seat back support (refer to photograph #36 on page A-18).

The torso belt exhibited a light yellow abraded mark which was attributed to contact with driver's floral print blouse during the crash (refer to photograph #38 on page A-19). The transfer mark measured 1.3 cm (0.5") wide and 5.1 cm (2.0") long and was located 44.5 cm (17.5") from the D-ring. The torso belt was held in place by a clamp type paper clip at the time of the crash which was still attached post crash. The adjustable D-ring was in the lowest setting at the time of the crash (refer to photograph #62 on page A-31).

### **SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**

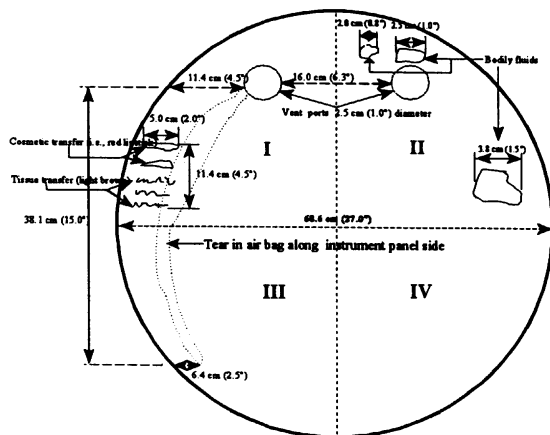
The components of the Supplemental Restraint System (SRS) included two front air bag crash sensors mounted under the hood over the front wheels, a center crash sensor assembly which included a safing sensor mounted to the floor under the center console, and a driver side air bag. The SRS initiated a normal actuation sequence as the result of the second crash impact sequence.

The air bag was a nontethered design with two 2.5 cm (1.0") vent ports located 16.0 cm (6.3") apart in the 11 o'clock and 1 o'clock positions along the top portion of the air bag (refer to photograph #50 on page A-25). The air bag measured 68.6 cm (27.0") in diameter with a finished seam along the peripheral edge. The air bag serial number "██████████" was located on the instrument panel side of the air bag along the lower quadrants (refer to photograph #51 on page A-26). The air bag inflator unit was manufactured by the ██████████ Corporation (refer to photograph #54 on page A-27).

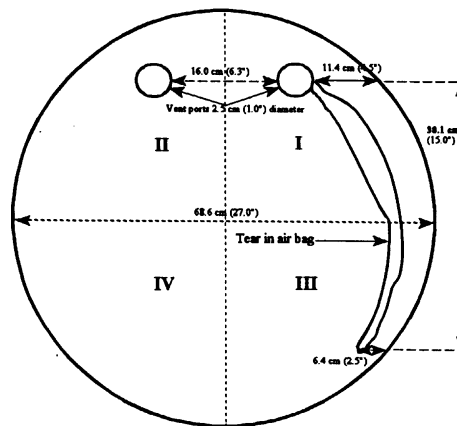
Driver contact evidence on the air bag included two red lipstick imprints and a tissue transfer in the upper left quadrant of the air bag near the periphery (refer to photograph #42 on page A-21). These contact marks covered an area which measured 5.1 cm (2.0") laterally and 11.4 cm (4.5") vertically. The location of these transfers was related to the air bag fold pattern used by the manufacturer's packaging process. The fold pattern appeared to be in an accordion fashion with the first series of fold completed from bottom to top. The second series of accordion type folds involved a side to side pattern with the left side folded over the right side as the last fold. This placed the left peripheral portion of the air bag at the center of the air bag module and consequently was the leading surface exiting the air bag module during the air bag deployment cycle. This surface subsequently contacted the driver's lips and facial area (refer to photograph #65 *WARNING, SENSITIVE PHOTOGRAPH* on page A-33) who was in contact with the air bag module cover at the time of the deployment sequence.

The air bag module cover opened in the typical "H" pattern. The upper and lower module cover flaps were dimensionally the same which measured 14.7 cm (5.8") laterally and 6.4 cm (2.5") vertically. The top surfaces of both flaps did not exhibit any discernable contact evidence. The underside of the upper flap of the air bag module cover, however, was abraded over a 2.5 cm (1.0") area located 6.0 cm (2.4") right of the left vertical edge and 6.4 cm (2.5") above the horizontal tear seam line (refer to photograph #49 on page A-25). This was the result of contact by the expanding air bag which was restricted by the driver's close proximity to the air bag module cover during the air bag expansion sequence.

### Driver Air Bag Tear



Frontal View of Non-tethered Air Bag



Instrument Panel (Reverse) View of Non-tethered Air Bag

A 35.6 cm (14.0") long tear in the air bag occurred along the instrument panel surface of the air bag which extended from the left air bag vent port down along the left side of the air bag. The top end of the tear was located 10.9 cm (4.3") inboard from the peripheral seam edge and the bottom end of the tear was 6.4 cm (2.5") inboard of the seam edge (refer to photographs #52, #53 on pages A-26, A-27). Edges along the tear appeared to be frayed with the absence of shearing. A 11.4 cm (4.5") section of the torn edge located 15.2 cm (6.0") from the left vent port appeared to be lightly singed which was attributed to escaping air bag inflation gas.

The driver's contact with the air bag module cover during the SRS deployment sequence partially trapped the air bag against the air bag module flap and air bag module housing as the air bag was expanding. The combination of events which involved loading by the driver and expansion of the air bag more than likely resulted in the rupture of the air bag fabric. There were no disruptions or irregularities evident along the flaps or module housing which were identified as contributing to the tearing event.

## VEHICLE VELOCITY ESTIMATES

Vehicle #1	
Travel Speed:	Unknown
Impact Speed:	50 km/h (31 mph)
Total Delta V:	50 km/h (31 mph)
Longitudinal Delta V:	-50 km/h (-31 mph)
Lateral Delta V:	0 km/h (0 mph)
Energy Absorption:	137,227 joules (101,200 ft/lb)

## COLLISION SEQUENCE

### Pre-crash:

The driver was returning home from a meeting with an attorney in which she received a financial settlement from her late husband's estate. The travel time for the return trip was estimated by police to be approximately 20-25 minutes. The crash site was reported by the police to be within a 0.4 km (0.25 mile) from the driver's residence.

The crash occurred within the confines of a large senior citizen gate community where access was controlled by a security check point. The travel lane width was exaggerated at 6.3 m (21.1') for the eastbound lane (direction of travel of Vehicle #1) and 6.9 m (23.1') wide for the westbound travel lane. The eastbound lane consisted of a left curve, dry, level asphalt surface with a negative 4.4 percent cross slope (southerly direction). The travel lanes were separated by a raised grass median which measured 3.9 m (12.9') wide. The posted speed limit was 40 km/h (25 mph).

Prior to the crash site, Vehicle #1 traveled through a section of the roadway which was reportedly being sprayed by errant lawn sprinklers. It was not clear whether the water from these sprinklers distracted the driver and required her to turn on the windshield wipers. The windshield wiper arms were noted in a vertical position at the vehicle's final rest position (FRP).

Vehicle #1 traveled through a short straight section of roadway prior to the left curve. It departed the right side of the roadway in the curve and traveled 15.4 m (50.5') prior to the point of impact (POI) with the tree stump.

The driver was improperly restrained by the manual lap and torso belt prior to the crash. The torso belt was positioned under the driver's left arm with a paper clip attached near the D-ring to limit the belt spool up mechanism. Her hands were placed on the steering wheel rim in the ten o'clock and three o'clock positions as determined by occupant contact points on the windshield and center instrument panel. Her right foot was probably located on the accelerator pedal at the time of the first impact sequence due to the lack of pre-impact braking marks noted by the police.

**Crash:**

Vehicle #1 struck a small tree stump which measured 40.6 cm (16.0") high that was located at the base of a larger tree with the right front tire. This contact damaged the tire and deformed the wheel. The tree stump contact damage continued along the lower right side plane in a sideswipe pattern for a distance of 245.1 cm (96.5") where it ended forward of the right rear wheel. Vehicle #1 continued in a straight trajectory for 10.5 m (35') and struck a 28.9 cm (11.1") diameter black olive tree with the center frontal plane. This impact resulted in the actuation of the SRS.

The driver moved forward with respect to deceleration forces experienced during the first impact sequence and was in contact with the air bag module cover at the time of the second impact. The driver's contact sequence with the air bag module cover partially trapped the air bag against the air bag module flap and air bag module housing as it was deploying resulting in a 35.6 cm (14.0") long tear along the left instrument panel surface of the air bag. The driver continued to load against the air bag and steering wheel and displaced the steering wheel rim and steering column.

**Post Crash:**

**Final Rest** -The vehicle rebounded approximately 0.9 m (3.0') rearward to its final rest position (FRP) without vehicle rotation.

**Driver Activities** -The driver came to rest in the driver seat with her upper torso and head slumped against the left front door. Her left foot was on the floor directly in front of the seat and her right foot was in the vicinity of the accelerator pedal (refer to on-scene photographs #68 on page A-35, *CAUTION, SENSITIVE PHOTOGRAPHS*).

**Police Activities** - The police department was on-scene within two minutes of crash notification and photographically documented the final rest positions of the driver and vehicle. The vehicle was subsequently impounded pending this investigation.

**Rescue Activities** - The EMS arrived on-scene seven minutes after the arrival of the police. After they evaluated the driver for vital signs, they pronounced her deceased. An autopsy was subsequently performed by the medical examiner's office.

**HUMAN FACTORS/  
OCCUPANT DATA**

Vehicle #1	Driver
Age/Sex:	80 yr. old female.
Height:	154.9 cm (61.0").
Weight:	63.5 kg (140 lb).

<b>Vehicle #1</b>	<b>Driver</b>
Manual Restraint System Usage:	Improperly wearing the available manual 3-pt. lap and torso belt, the torso belt was worn under the driver's left arm, a paper clip was attached to the torso belt near the D-ring to provide belt slack for comfort.
Usage Source:	Vehicle inspection, police report, on-scene photographs, official injury data, abrasion of fabric on the outboard aspect of the driver's seat back support.
Eyewear:	None indicated.
Vehicle Familiarity:	Not known.
Route Familiarity:	Familiar with the area, crash occurred within 0.4 km (0.25 mile) from her residence which was located within the confines of a senior citizen gate community.
Trip Plan:	Returning from a meeting with an attorney after receiving a monetary settlement from her late husband's estate.
Type of Medical Treatment:	The driver was pronounced deceased at the scene by EMS personnel.

## INJURY DATA

Driver #1 was pronounced dead at the scene. Injury data contained in the following table was obtained from the autopsy report which listed the cause of death as the result of blunt chest trauma. A toxicology report indicated test results for the presence of alcohol and other drugs showed negative. The driver was reportedly not wearing any jewelry or glasses at the time of the crash.

<b>DRIVER #1 INJURIES</b>	<b>INJURY SEVERITY AIS-90</b>	<b>INJURY SOURCE</b>
1. Superficial abrasions of the nose, left cheek, lips, mandible, and chin.	290202.10	Driver side air bag
2. Abrasion of the left neck angled down to the manubrium.	390202.12	Driver side air bag
3. Abrasions of the right chest, above and medial to the right breast.	490202.11	Driver side air bag



<b>DRIVER #1 INJURIES</b>	<b>INJURY SEVERITY AIS-90</b>	<b>INJURY SOURCE</b>
4. Ecchymosis of the left chest, a 5 cm diameter poorly circumscribed area on the medial side of the left breast.	490402.12	Driver side air bag, air bag module cover
5. Abrasion of the left chest.	490202.12	Torso belt
6. Abrasion of the right chest.	490202.11	Torso belt
7. Ecchymosis of the left chest.	490402.12	Torso belt
8. Ecchymosis of the right superior abdomen	590402.17	Torso belt
<b>Supplemental discussion for injuries #5 - #8:</b> Linear superficial abrasions below the left breast, angling downward and to the right. Just below this is a moderately distinct band of ecchymosis extending from the left anterior axillary line and angling downward and to the right. This extends as far as the right anterior superior iliac spine.		
9. Bilateral fracture of the ribs 1-10 laterally with hemothorax.	450242.53	Driver side air bag, steering wheel rim
10. Transection of the aorta at the distal portion of the arch.	420210.54	Driver side air bag, steering wheel rim
11. Separation of the thoracic spine between 3 <sup>rd</sup> and 4 <sup>th</sup> vertebra.	640440.57	Driver side air bag, steering wheel rim
12. 3 cm diameter bruise of the right medial elbow.	790402.11	Probable center instrument panel
13. Closed fracture of the left forearm proximal to the wrist.	751800.22	Windshield
14. 1 cm horizontal laceration over the dorsum of the left hand.	790602.12	Windshield

<b>DRIVER #1 INJURIES</b>	<b>INJURY SEVERITY AIS-90</b>	<b>INJURY SOURCE</b>
15. Open fracture dislocation of the right tibio-talar joint.	853200.21 850210.21	Toe pan
16. 2 cm diameter bruise of the medial side of the right knee.	890402.11	Knee bolster
17. Small capsular laceration on the posterior tip of the spleen.	544222.22	Torso belt

## **OCCUPANT KINEMATICS**

Driver #1 was seated directly behind the wheel with her hands located in the 10 o'clock and 3 o'clock positions at the time of the crash. She was improperly wearing the torso portion of the manual three point lap and torso restraint system under her left arm.

Vehicle #1 departed the right roadside and struck a small tree stump with the right tire and side plane. The driver continued to move forward toward the steering wheel and air bag module cover as the vehicle decelerated due to this impact sequence.

The vehicle traveled forward and struck a tree at a SMASH computed delta V of 50 km/h (31 mph) with the center front bumper which resulted in the actuation of the SRS. During the air bag expansion process, the air bag module cover and air bag contacted the driver's chest and face resulting in soft tissue abrasions (refer to photograph #65 on page A-33, *CAUTION, SENSITIVE PHOTOGRAPH*) and contributed to the bilateral fracture of the ribs and transection of the aorta.

The driver's upper torso loaded the torso belt which resulted in abrasions and contusions of the upper torso. These soft tissue injuries were located in the lower left chest and continued diagonally downward to the right upper abdominal area which were in the appropriate area given the position of the torso restraint belt. She also sustained laceration of the spleen which was attributed to loading on the torso belt.

The driver's left hand was propelled upward by the expanding air bag and contacted the windshield as evidenced by a spider web cracked glazing pattern. This contact resulted in a fracture of the left wrist and a laceration of the left hand. The driver's right hand and forearm moved forward and contacted the center instrument panel. This correlated with the indentation of the instrument panel in the vicinity of the temperature control switches and contusion of the forearm.

As the driver continued to move forward in response to the impact force, her upper torso continued to load the steering assembly. This loading displaced the steering column 5.8 cm (2.3")

and 5.3 cm (2.1") at the right and left shear capsules, respectively and deformed the top portion of the steering wheel forward and downward a measured horizontal distance of 6.4 cm (2.5").

Her right foot may have been dislodged from the accelerator pedal following the first impact and was in contact with the adjacent toe pan during the second impact. As her body moved forward, her right foot loaded against the intruding toe pan resulting in an open fracture dislocation of the right tibio-talar joint.

The driver rebounded rearward and contacted the seat back support and head rest. White hair fibers embedded in the fabric of the head rest was attributed to contact by the driver's head. Her upper torso then slumped forward and to the left with her head near the driver's door. Her left foot was on the floor directly in front of the seat and her right foot was in the vicinity of the accelerator pedal.



1. Trajectory of Vehicle #1, 1992 Toyota Camry LE, 90 m (300') west of the point of impact (POI).



2. Trajectory of Vehicle #1, 75 m (250') from the POI.





3. Trajectory of Vehicle #1, 60 m (200') from the POI.



4. Trajectory of Vehicle #1, 45 m (150') from the POI.





5. Trajectory of Vehicle #1, 30 m (100') from the POI.



6. Trajectory of Vehicle #1, 15 m (50') from the POI.





7. Trajectory of Vehicle #1, 3 m (10') from the POI.



8. POI with tree stump located left of the main tree trunk.





9. On-scene photograph of Vehicle #1 10.5 m (35') prior to the impact with the second tree.



10. Same view as Photograph #9. taken during the follow-on investigation.





11. Post impact trajectory 2.1 m (7.0') prior to the vehicle's impact with the second tree.



12. POI with second tree (Black Olive) which was 28.3 cm (11.1") in diameter.





13. On-scene view of Vehicle #1's final rest position (FRP) showing the relative position of the vehicle's front bumper with the tree.



14. On-scene view of Vehicle #1's FRP relative to the tree and roadway edge.





15. On-scene view of Vehicle #1's reverse trajectory.



16. Reverse view of Vehicle #1's trajectory showing the second tree impact and area of the FRP.



17. Reverse view of Vehicle #1's trajectory 46 m (150') west of the POI.



18. Frontal view of the 1992 Toyota Camry LE showing the impact with the second tree.





19. Close-up view of the frontal impact with the second tree.

20. Lateral view of the frontal plane taken from the left side of the vehicle showing the depth of crush.





21. Lateral view of the frontal plane taken from the right side of the vehicle showing the depth of crush.

22. Longitudinal view of the right side plane taken from the front showing lateral displacement of the right front fender.







23. View of the left corner highlighting the frontal crush pattern.



24. Lateral view of the left front fender.



25. View of the windshield from the left side which shows a spider web pattern which resulted from contact by the driver's left hand during the second tree impact sequence.



26. Lateral view of the windshield illustrating the position of the windshield wiper blades at the FRP.





27. Overall view of the vehicle's left side plane.



28. View of the right rear corner showing minor crush along the lower doors.

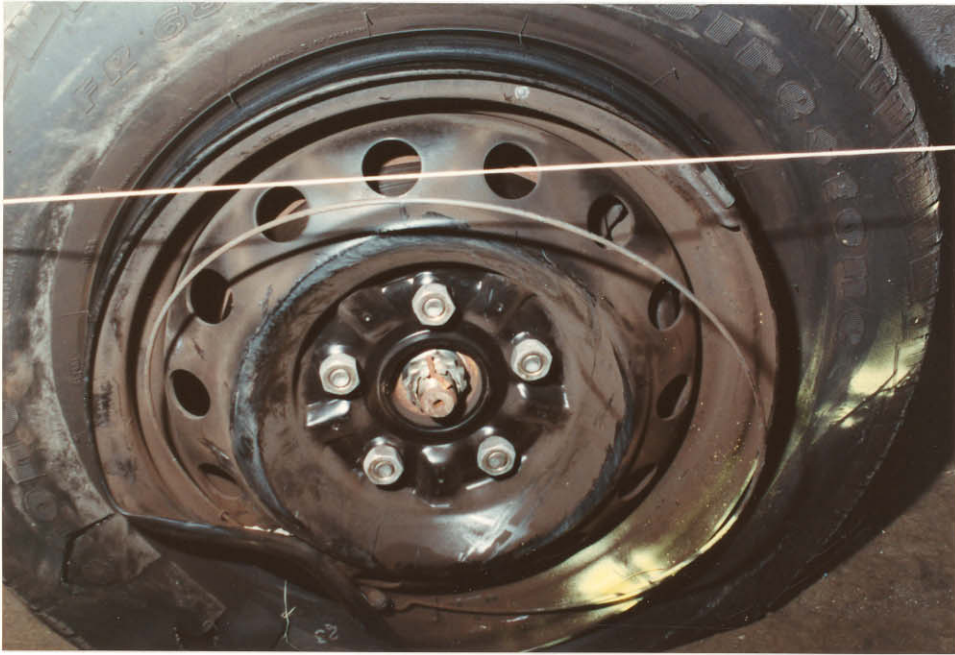


29. Overall view of the vehicle's right side plane illustrating the contact pattern which began at the right front tire and extended rearward to the rear wheel from the impact with the tree stump.



30. Closer view of the tree stump impact taken from the right front tire and looking rearward toward the right rear tire.

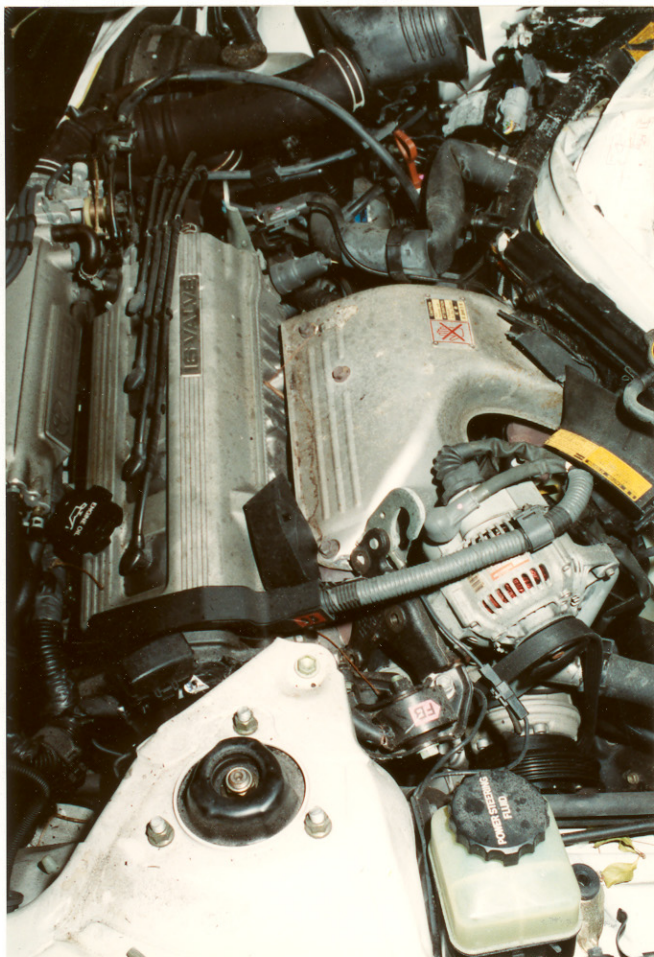




31. Close-up view of the right front tire and wheel highlighting deformation from the impact with the tree stump.



32. View of the right front corner showing frontal and right side plane impact damage.



33. Lateral view of the engine compartment taken from the right side of the vehicle.



34. Lateral view of the interior taken from the driver's side and highlighting contacts on the air bag, torso belt, and head restraint, and abraded mark on seat back rest from the torso belt.





35. Close-up view of the driver's head restraint showing a light yellowish transfer from the driver's head/hair.

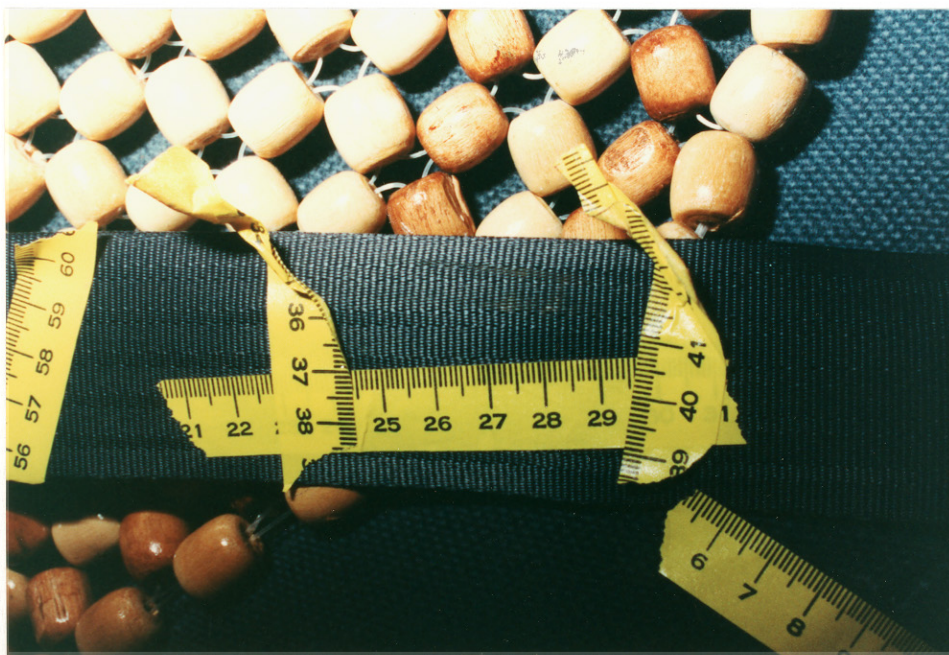


36. Close-up view of the abraded seat back fabric which was produced from the torso restraint belt during the impact with the second tree.



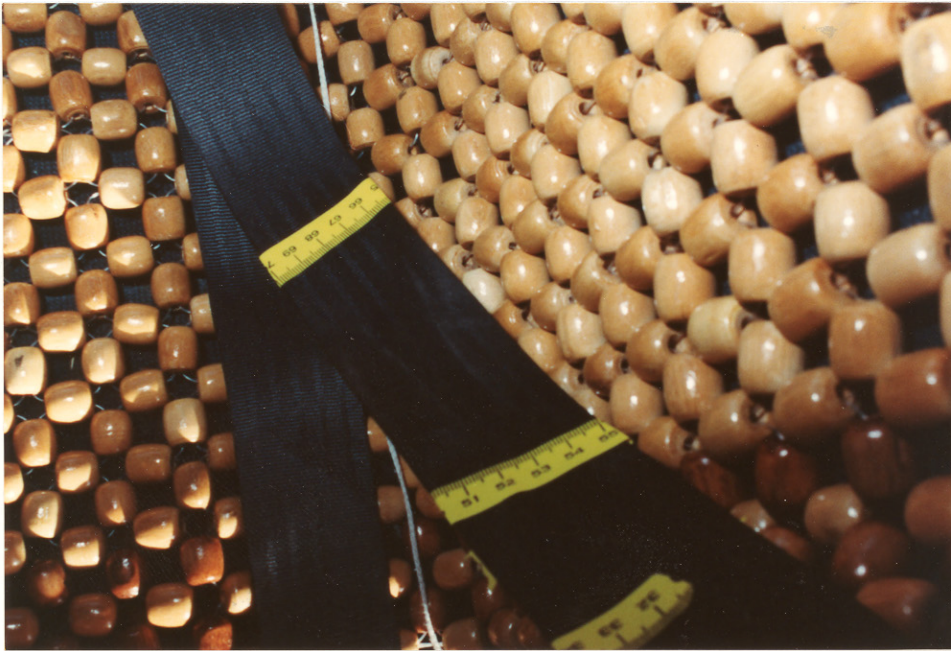


37. View of the seat placement at POI which was 15.5 cm (6.1") forward of the full rear adjustment position and 8.4 cm (3.3") rear of the full forward position.



38. Close-up view of a 1.3 cm x 5.0 cm (0.5" x 2.0") light yellow transfer and abraded surface of the driver side torso belt located 44.5 cm (17.5") from the "D" ring.





39. Close-up view of a white transfer mark on the outboard side of the driver side torso belt which was folded in the latch plate assembly.



40. View of the left third of the instrument panel showing contact to the windshield, steering wheel rim, and air bag.

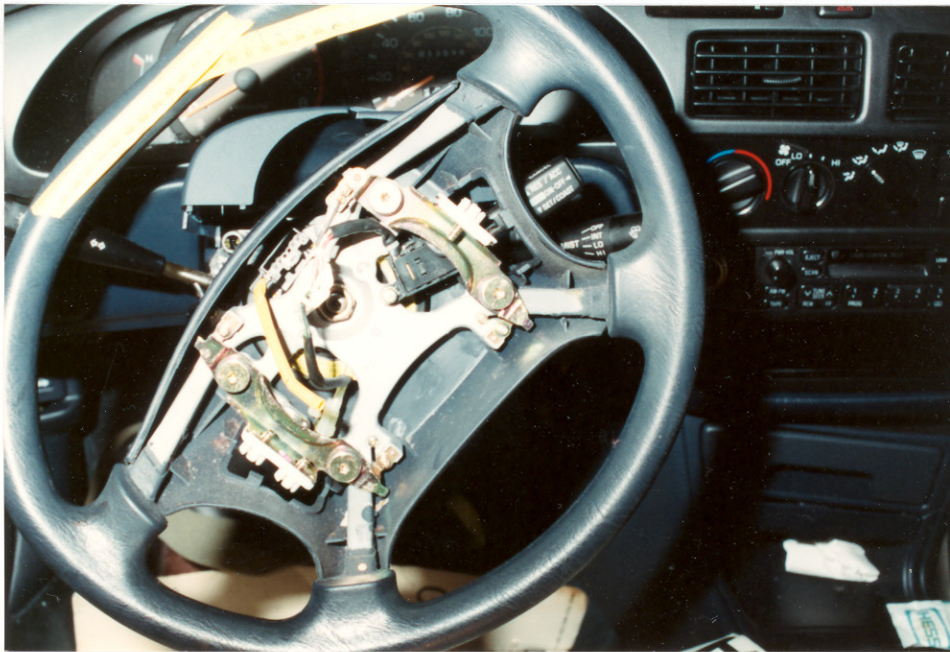


41. Close-up view of the contact to the windshield by the driver's right hand.



42. Close-up view of red cosmetic and tissue transfers in the upper left quadrant of the air bag.





43. View of the steering wheel after the removal of the air bag module.



44. View of the left steering column shear capsule/shear plate showing 5.3 cm (2.1") displacement.



45. View of the right steering column shear capsule/shear plate showing 5.8 cm (2.3") displacement.



46. View of the top portion of the steering wheel which illustrates the forward displacement of the steering wheel rim.





47. View of the top area of the steering wheel which illustrates driver contact and vertical displacement of the steering wheel rim.



48. View of the upper flap of the air bag module cover with the tear in the air bag noted along the left side of the photograph.





49. View of the underside of the upper air bag module flap showing an abraded area measuring 2.5 cm (1.0") in length.



50. View of the two air bag vent ports located near the top portion of the air bag (instrument panel side of the bag).





51. View of the inside surface of the lower air bag module cover flap showing a blue identification number applied during assembly ("0821-2").



52. View of the left side of the air bag showing the location of the tear.





53. View of the air bag tear as it is elongated to show the 35.6 cm (14.0") tear length.



54. Tear in the air bag opened to show the air bag inflator.





55. View of the knee bolster after removal from the lower instrument panel.

56. View of the left side of the lower instrument panel illustrating contact damage to the fuse panel cover and knee bolster by the driver's left leg.





57. View of the contact damage by the driver's right leg along the lower instrument panel and knee bolster located right of the steering column.



58. View of the center instrument panel and windshield.





59. Close-up view of contact damage along the mid instrument panel.



60. Angular view of the instrument panel taken from the right side of the vehicle.



61. Lateral view of the driver's seating area with emphasis on the relative position of the driver's seat with the steering wheel at the time of air bag deployment.



62. View of the paper clip used to limit belt spool-up capability by restricting movement of the torso belt at the D-ring. Additionally, this photograph shows the height adjustment of the D-ring was at its lowest limit during the crash.





63. Lateral view of the rear seat area taken from the right side.



64. Lateral view of the rear seat area taken from the left side.

***CAUTION:***

***APPENDIX A CONTAINS SENSITIVE PHOTOGRAPHS***

***PAGES A-33 THROUGH A-35***



**"GRAPHIC"**  
**PHOTOGRAPHS and IMAGES**

Several vivid photographs have been removed for this case.  
These photographs contain highly graphic material  
which may be improper for the general audience.

Photo #65-68    page(s) A-33,A-34 & A-35

If you would like a copy of these photographs and/or images  
please call or write to:

Marjorie Saccoccio at (617) 494-2640  
VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER  
55 Broadway  
Cambridge, MA 02142





69. On-scene view of the driver side air bag.



## **Appendix B**

### **SMASH Speed Reconstruction Program Output**

# Summary of Results Using Damage

SCI 94-31

Speed Change  
(Damage)

Impact Speed  
(Damage and  
Spinout)

## Vehicle #1

Total	50 km/h ( 31 mph)	50 km/h ( 31 mph)
Longitudinal	-50 km/h ( -31 mph)	50 km/h ( 31 mph)
Latitudinal	0 km/h ( 0 mph)	0 km/h ( 0 mph)
PDOF Angle	0 ½	
Energy Dissipated	= 137227 Joules ( 101200 Ft-Lb)	
Barrier Equivalent Speed	= 49.9 km/h ( 31.0 mph)	

Calculated using crush coefficients found in the vehicle database.

## Vehicle #2

Total	0 km/h ( 0 mph)	0 km/h ( 0 mph)
Longitudinal	0 km/h ( 0 mph)	0 km/h ( 0 mph)
Latitudinal	0 km/h ( 0 mph)	0 km/h ( 0 mph)
PDOF Angle	0 ½	
Energy Dissipated	= 0 Joules ( 0 Ft-Lb)	
Barrier Equivalent Speed	= 0.0 km/h ( 0.0 mph)	

Calculated using size and stiffness categories.

## Separation Results

Separation (Using Spinout)

us

vs

psisd

Vehicle #1  
áááááááááá

0 km/h ( 0 mph)  
6 km/h ( 4 mph)  
-38 deg/sec

Vehicle #2  
áááááááááá

0 km/h ( 0 mph)  
0 km/h ( 0 mph)  
0 deg/sec



### General Information

	Vehicle #1 áááááááááááá	Vehicle #2 áááááááááááá
Year	1992	1900
Make	Toyota	
Model	Camry	
CDC	12FCEN3	BARRIER
Side Damaged	F	
PDOF Angle	0 ½	0 ½
Heading Angle	0 ½	0 ½
Calculation method: Calculated Crush Coeff.      Size and Stiffness		
Size Category	**	11
Stiffness Category	**	11
Vehicle Weight	**	453592 kgs ( 999999 lbs)
d0 crush coeff.	100.47 sqrt(N)	***** sqrt(N)
d1 crush coeff.	6.76 sqrt(N)/cm	***** sqrt(N)/cm

### Damage Information

	Vehicle #1 áááááááááááá Yes	Vehicle #2 áááááááááááá Yes
Vehicle Damage Known		
Crush Length	137.0 cm ( 54 in)	0.0 cm ( 0 in)
C1	11.0 cm ( 4 in)	0.0 cm ( 0 in)
C2	39.0 cm ( 15 in)	0.0 cm ( 0 in)
C3	72.0 cm ( 28 in)	0.0 cm ( 0 in)
C4	78.0 cm ( 31 in)	0.0 cm ( 0 in)
C5	38.0 cm ( 15 in)	0.0 cm ( 0 in)
C6	14.0 cm ( 6 in)	0.0 cm ( 0 in)
D	-10.9 cm ( -4 in)	0.0 cm ( 0 in)
D'	-10.4 cm ( -4 in)	0.0 cm ( 0 in)

### Scene Information

	Vehicle #1 áááááááááá	Vehicle #2 áááááááááá
Impact		
x position	-2.4 m (    -7.9 ft)	1.2 m (    3.9 ft)
y position	0.2 m (    0.7 ft)	0.0 m (    0.0 ft)
heading angle	0 ½	180 ½
Rest		
x position	-2.4 m (    -7.9 ft)	1.2 m (    3.9 ft)
y position	0.6 m (    2.0 ft)	0.0 m (    0.0 ft)
heading angle	-10 ½	180 ½
Side-Slip Angle	0 ½	0 ½

### Motion Information

	Vehicle #1 áááááááááá	Vehicle #2 áááááááááá
Did Vehicle Rotate?	Yes	No
Did Rotation Stop?	No	Yes
End of Rotation x position	-2.4 m (    -7.9 ft)	1.2 m (    3.9 ft)
End of Rotation y position	0.6 m (    2.0 ft)	0.0 m (    0.0 ft)
End of Rotation angle	-10.0 ½	180.0 ½
Curved Path?	No	No
Curved Path x position	0.0 m (    0.0 ft)	0.0 m (    0.0 ft)
Curved Path y position	0.0 m (    0.0 ft)	0.0 m (    0.0 ft)
Direction of Rotation	CCW	None
Amount of Rotation	< 360½	< 360½

Was There Sustained Contact Between the Vehicles? No

# Friction Information

	Vehicle #1 áááááááááááá	Vehicle #2 áááááááááááá
Rolling Resistance		
Left Front Wheel	1.00	0.00
Right Front Wheel	0.25	0.00
Left Rear Wheel	0.01	0.00
Right Rear Wheel	0.01	0.00
Coefficient of Friction = 0.80		

# Vehicle Dimensions

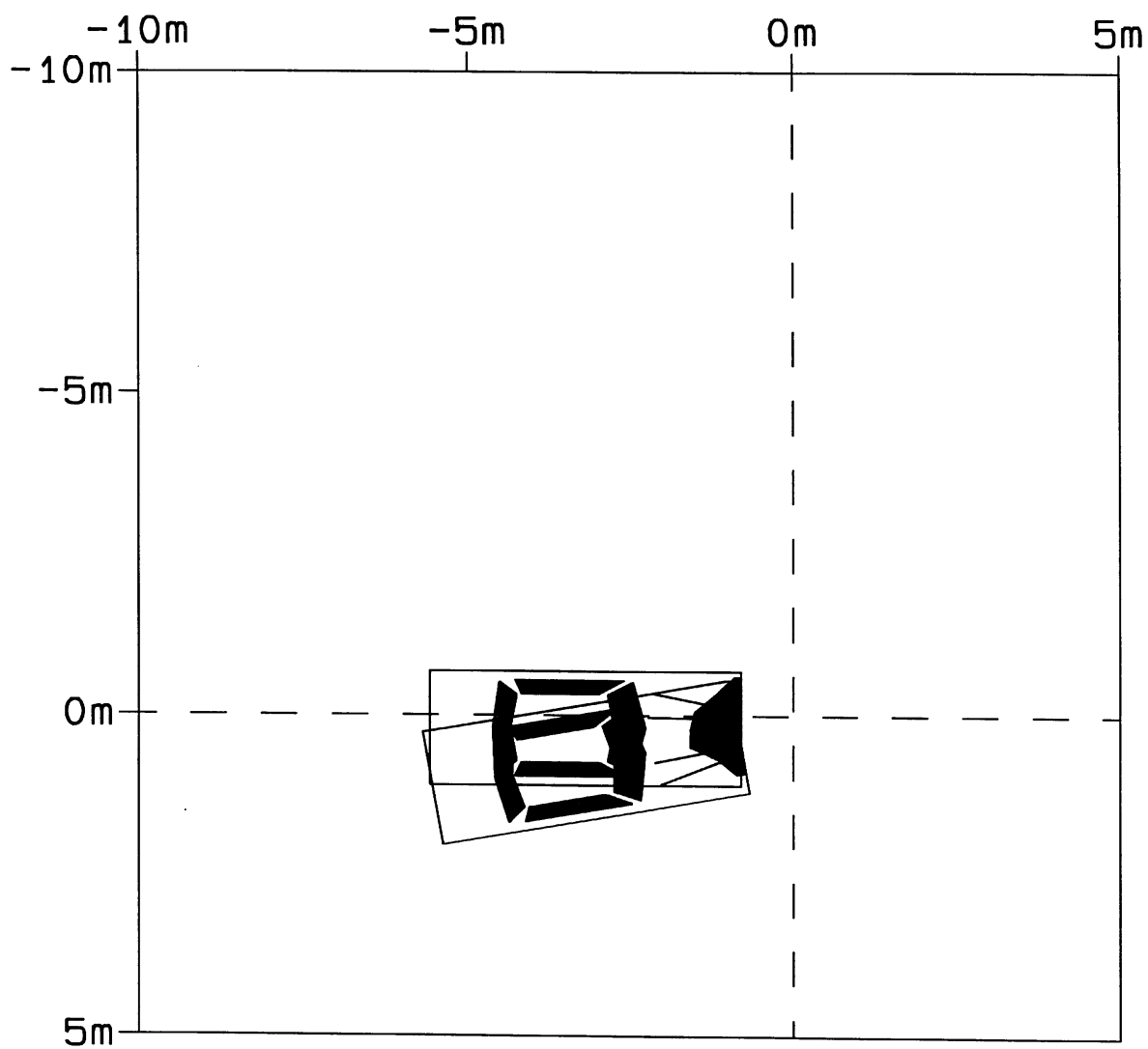
	Vehicle #1 áááááááááááá	Vehicle #2 áááááááááááá
Length	477.0 cm ( 188 in)	0.0 cm ( 0 in)
Width	177.0 cm ( 70 in)	0.0 cm ( 0 in)
Wheelbase	261.9 cm ( 103 in)	254.0 cm ( 100 in)
Weight	1410 kgs ( 3109 lbs)	453592 kgs ( 999999 lbs)
CG to Front of Veh	159.2 cm ( 63 in)	127.0 cm ( 50 in)
Engine Displacement	2.2 liters	0.0 liters
Moment of Inertia	289837 kgs ( 25654 lbs)	29375740821 kgs (2600101632 l
Vehicle Mass	1410 kgs ( 8.1 lb-s^2/in)	453515 kgs (2600.1 lb-s^2/in)

## Trajectory Simulation Results

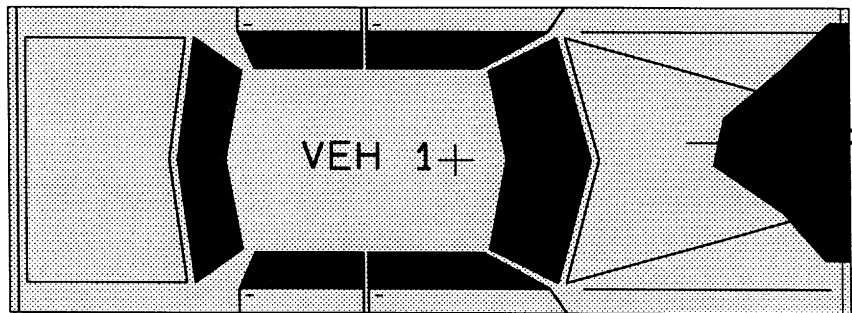
Simulation Time: 0.000 seconds Integration Step = 0.000 seconds

	Vehicle #1 áááááááááááá	Vehicle #2 áááááááááááá
No. of Iterations	0	0
Best Iteration	0	0
Error	0.000	0.000
Predicted Rest Positions		
x	0.0 m ( 0.0 ft)	0.0 m ( 0.0 ft)
y	0.0 m ( 0.0 ft)	0.0 m ( 0.0 ft)
angle	0.0 ½	0.0 ½
Scene Rest Positions		
x	-2.4 m ( -7.9 ft)	1.2 m ( 3.9 ft)
y	0.6 m ( 2.0 ft)	0.0 m ( 0.0 ft)
angle	-10.0 ½	180.0 ½
Residual Velocity		
Linear	0 km/h ( 0 mph)	0 km/h ( 0 mph)
Angular	0.00 deg/sec	0.00 deg/sec





1992 Toyota Camry



SCI 94-31  
[REDACTED] 1997

# GENERAL VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

### 1. Primary Sampling Unit Number

## 2. Case Number - Stratum

### 3. Vehicle Number

## VEHICLE IDENTIFICATION

#### 4. Vehicle Model Year

Code the last two digits of the model year  
(99) Unknown

**5. Vehicle Make (specify):**

Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.

**6. Vehicle Model (specify):**

**CARRY LE**  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(999) Unknown

## 7. Body Type

**Note:** Applicable codes may be found on the back of this page.

### 8. Vehicle Identification Number

J T 2 S K 1 2 E 7 N O (Serial # omitted)  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nines

## OFFICIAL RECORDS

## 9. Police Reported Vehicle Disposition

(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

## 10. Police Reported Travel Speed

Code to the nearest kph (NOTE: 000 means less than 0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

$$\underline{35} \text{ mph} \times 1.6093 = \underline{56.3} \text{ kph}$$

## 11. Police Reported Alcohol Presence

(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) Unknown

**Note:** See variables 37 through 55  
(Page 4) for information on Other Drugs

## 12. Alcohol Test Result For Driver

Code actual value (decimal implied before first digit—0.xx)

(95)	Test refused
(96)	None given
(97)	AC test performed, results unknown
(98)	No driver present
(99)	Unknown

**Source:**

## ACCIDENT RELATED

### 13. Speed Limit

(000) No statutory limit  
Code posted or statutory speed limit  
in kph  
(999) Unknown

$$25 \text{ mph} \times 1.6093 = 40.2 \text{ kph}$$

#### 14. Attempted Avoidance Maneuver

- (01) No avoidance actions
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (97) No driver present
- (98) Other action (specify):

(99) Unknown

### 15. Accident Type

Applicable codes may be found on the back of page two of this field form

(00) No impact

Code the number of the diagram that best describes the accident circumstance

(98) Other accident type (specify):

(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*



# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
  - (02) 2-door sedan, hardtop, coupe
  - (03) 3-door/2-door hatchback
  - (04) 4-door sedan, hardtop
  - (05) 5-door/4-door hatchback
  - (06) Station wagon (excluding van and truck based)
  - (07) Hatchback, number of doors unknown
  - (08) Other automobile type (specify):
- 
- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
  - (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
  - (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
  - (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
  - (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
  - (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
  - (28) Other van type (Hi-Cube Van, Kary) (specify):
- 
- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500,)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
  - (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):
- 
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
  - (81) Moped (motorized bicycle)
  - (82) Three-wheel motorcycle or moped
  - (88) Other motored cycle (minibike, motorscooter) (specify):
- 
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## OCCUPANT RELATED

16. Driver Presence in Vehicle 1  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
17. Number of Occupants This Vehicle 0 1  
 (00-96) Code actual number of occupants for this vehicle  
 (97) 97 or more  
 (99) Unknown
18. Number of Occupant Forms Submitted 0 1

24. Rollover 0  
 (0) No rollover (no overturning)
- Rollover (primarily about the longitudinal axis)*  
 (1) Rollover, 1 quarter turn only  
 (2) Rollover, 2 quarter turns  
 (3) Rollover, 3 quarter turns  
 (4) Rollover, 4 or more quarter turns (specify):  
 \_\_\_\_\_
- (5) Rollover--end-over-end (i.e., primarily about the lateral axis)  
 (9) Rollover (overturn), details unknown

## VEHICLE WEIGHT ITEMS

19. Vehicle Curb Weight 1 3 3 0  
 \_\_\_\_\_ Code weight to nearest 10 kilograms.  
 (045) Less than 450 kilograms  
 (610) 6,100 kilograms or more  
 (999) Unknown  
2 9 4 3 lbs X .4536 = 1 3 3 5 kgs  
 Source:
20. Vehicle Cargo Weight 0 0 1 0  
 \_\_\_\_\_ Code weight to nearest 10 kilograms.  
 (000) Less than 5 kilograms  
 (450) 4,500 kilograms or more  
 (999) Unknown  
 \_\_\_\_\_ 2 0 lbs X .4536 = \_\_\_\_\_ 9 1 kgs

## OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this Vehicle) 0
26. Rear Override/Underride (this Vehicle) 0  
 (0) No override/underride, or not an end-to-end impact
- Override (see specific CDC)*  
 (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify):  
 \_\_\_\_\_
- Underride (see specific CDC)*  
 (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify):  
 \_\_\_\_\_
- (7) Medium/heavy truck or bus override  
 (9) Unknown

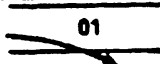







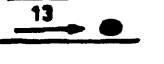
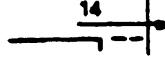
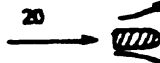
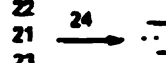
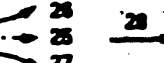
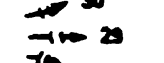




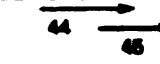









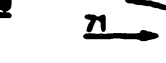
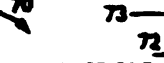







## RECONSTRUCTION DATA

21. Towed Trailing Unit 0  
 (0) No towed unit  
 (1) Yes--towed trailing unit  
 (9) Unknown
22. Documentation of Trajectory Data for This Vehicle 1  
 (0) No  
 (1) Yes
23. Post Collision Condition of Tree or Pole (For Highest Delta V) 1  
 (0) Not collision (for highest delta V) with tree or pole  
 (1) Not damaged *Bark fractured*  
 (2) Cracked/sheared  
 (3) Tilted <45 degrees  
 (4) Tilted ≥45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify):  
 \_\_\_\_\_  
 (9) Unknown

## HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown

27. Heading Angle For This Vehicle 9 9 8
28. Heading Angle For Other Vehicle 9 9 8

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 26, 27	 24 DECEL. 28, 29, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER (EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	 44	 46	 48	(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G Head-On	 50 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN		
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN		
IV Change Trafficway Vehicle Turning	J Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72	(EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN	
	K Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	 81	(EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN	
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87	 89	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN	
VI Miscellaneous	M Backing Etc.	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact		



29. Basis for Total Delta V (highest)

2*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

32. Lateral Component of Delta V

+

Highest

- 0 0 0000 Nearest kph (highest)           Nearest kph (secondary)

(NOTE:   000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(  999) Unknown

33. Energy Absorption

1 3 7, 2 0 0137,227 Nearest 100 joules (highest)           Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)  
(9997) 999,650 joules or more  
(9999) Unknown

## COMPUTER GENERATED DELTA V

30. Total Delta V

Highest

50 Nearest kph (highest)0 5 0  
( 3 1 )           Nearest kph (secondary)

(NOTE: 000 means less than  
0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

31. Longitudinal Component of  
Delta V+ 0 5 0- 5 0 Nearest kph (highest)( - 3 1 )           Nearest kph (secondary)

(NOTE:   000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(  999) Unknown

34. Confidence In Reconstruction Program  
Results (For Highest Delta V)

- (0) No reconstruction
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

1

35. Type of Vehicle Inspection

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

1

36. Is this an AOPS Vehicle?

- (0) No
- (1) Yes - researcher determined
- (2) VIN determined air bag system
- (3) VIN determined automatic (passive) belts
- (4) VIN determined air bag and automatic (passive) belts

1IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [ ☒ ] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO

37. Police Reported Other Drug Presence 0

- (0) No other drug(s) present  
 (1) Yes [other drug(s) present]  
 (7) Not reported  
 (8) No driver present  
 (9) Unknown

38. Police Reported Drug Evaluation Classification (DEC) Test For Driver 0

- (0) No DEC process available or given  
 (1) DEC process given, results known  
 (2) DEC process given, results unknown  
 (3) DEC process available, unknown if given  
 (8) No driver present

39. Other Drug Specimen Test Type For Driver 1

- (0) No specimen test given  
 (1) Blood test  
 (2) Urine test  
 (3) Other specimen tests (specify):  
 \_\_\_\_\_  
 (7) Unspecified specimen test  
 (8) No driver present  
 (9) Unknown if specimen test given

### DRUG EVALUATION CLASSIFICATION

#### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. <u>0</u>	41. <u>1</u>
Depressant Drug	42. <u>0</u>	43. <u>1</u>
Stimulant Drug	44. <u>0</u>	45. <u>1</u>
Hallucinogen Drug	46. <u>0</u>	47. <u>1</u>
Cannabinoid Drug	48. <u>0</u>	49. <u>1</u>
Phencyclidine (PCP)	50. <u>0</u>	51. <u>1</u>
Inhalant Drug	52. <u>0</u>	53. <u>1</u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>0</u>	55. <u>1</u>

## Codes For DEC Test Results

- (0) No DEC test given  
 (1) Passed DEC test  
 (2) Failed DEC test  
 (3) DEC test given—results unknown  
 (8) No driver present  
 (9) Unknown if DEC test given

## Codes for Specimen Test Results

- (0) No specimen test given  
 (1) Drug not found in specimen  
 (2) Drug found in specimen  
 (7) Specimen test given, results unknown or  
 not obtained  
 (8) No driver present  
 (9) Unknown if specimen test given

## OTHER DATA

## 56. Driver's Zip Code

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
 Code actual 5-digit zip code  
 (99999) Unknown

## 57. Driver's Race/Ethnic Origin

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify):  
 (9) Unknown

## 58. Vehicle Special Use (This Trip)

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Fire truck or car  
 (8) Other (specify):  
 (9) Unknown

## ROLLOVER DATA

If GV07 (Body Type)  $\neq$  1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

## 59. Rollover Initiation Type

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify:  
 (9) Unknown rollover initiation type

## 60. Location of Rollover Initiation

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

## 61. Rollover Initiation Object Contacted

## 62. Location on Vehicle Where Initial Principal Tripping Force Is Applied

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify):  
 (8) Non-contact rollover forces (specify):  
 (9) Unknown

## 63. Direction of Initial Roll

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

## PRECRASH DATA

## 64. Pre-Event Movement (Prior to Recognition of Critical Event)

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify):  
 (98) No driver present  
 (99) Unknown



## CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

### Noncollision

- (31) Turn-over — fall-over
- (33) Jackknife

### Collision With Fixed Object

- (41) Tree ( $\leq 10$  cm in diameter)
- (42) Tree ( $> 10$  cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 10$  cm in diameter)
- (51) Pole or post ( $> 10$  cm but  $\leq 30$  cm in diameter)
- (52) Pole or post ( $> 30$  cm in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_

- (69) Unknown fixed object

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): \_\_\_\_\_

- (89) Unknown nonfixed object

- (98) Other event (specify): \_\_\_\_\_

- (99) Unknown event or object

## PRECRASH DATA (Continued)

65. Critical Precrash Event 11*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location

(98) Other critical precrash event (specify): \_\_\_\_\_

(99) Unknown \_\_\_\_\_

For Corrective Actions Attempted see variable GV14 (Attempted Avoidance Maneuver)

66. Precrash Stability After Avoidance Maneuver 0

- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_
- (8) No driver present
- (9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) 0

- (0) No avoidance maneuver
- (1) Vehicle stayed in travel lane where avoidance maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



# EXTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number - Stratum

## VEHICLE IDENTIFICATION

VIN J T S K I 2 E 7 N 0

Manufactured 1/91

Model Year 92

Vehicle Make (specify): Toyota

Vehicle Model (specify): Camry LE

## LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
1	35.1cm (13.8") forward of RR. tire	Same as direct damage
2	7.6cm (3.0") @ of $\Phi$	Bumper corner - Bumper corner

## CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	± D
		Width (CDC)	Max Crush								
2	Bumper level along bumper shroud	31.75cm (12.5")	78.5cm (30.9")	63.0cm (24.8")	21.6cm (8.5")	35.6cm (14.0")	72.4cm (28.5")	78.5cm (30.9")	12.7cm (5.0")	2.5cm (1.0")	511.4cm (201.4")
	Free space		0.0		18.2cm (7.1")	3.8cm (1.5")	0.8cm (0.3")	0.0cm (0.0")	3.8cm (1.5")	10.2cm (4.0")	
	Resultant		78.5cm (30.9")		11.4cm (4.5")	31.8cm (12.5")	71.6cm (28.2")	78.5cm (30.9")	8.9cm (3.5")	0	
2	Bumper level along reinforcement bar				40.6cm (16.0")	46.7cm (18.4")	72.4cm (28.5")	78.5cm (30.9")	45.9cm (18.1")	27.9cm (11.0")	
	Free space				14.0cm (5.5")	7.6cm (3.0")	0.8cm (0.3")	0	7.6cm (3.0")	14.0cm (5.5")	
	Resultant				26.6cm (10.5")	39.1cm (15.4")	71.6cm (28.2")	78.5cm (30.9")	38.3cm (15.1")	13.9cm (5.5")	
1	@ side plane	245.1cm (96.5")		193.0cm (76.0")	0.3cm (0.1")	0.3cm (0.1")	0.3cm (0.1")	0.3cm (0.1")	0.6cm (0.3")	3.8cm (1.5")	+26.7cm (10.5")



# ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase                    \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Overall Length             \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Maximum Width            \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Curb Weight                \_\_\_ \_\_\_, \_\_\_ \_\_\_ \_\_\_ pounds x .4536 = \_\_\_ \_\_\_, \_\_\_ \_\_\_ \_\_\_ kg  
 Average Track              \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Front Overhang            \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Rear Overhang             \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Undeformed End Width    \_\_\_ \_\_\_ \_\_\_.\_\_\_ inches x 2.54 =        \_\_\_ \_\_\_ \_\_\_ cm  
 Engine Size: cyl./displ.   \_\_\_ \_\_\_ \_\_\_ \_\_\_ cc        x .001 =        \_\_\_ .\_\_\_ L  
                                      \_\_\_ \_\_\_ \_\_\_ CID        x .0164 =        \_\_\_ .\_\_\_ L

## VEHICLE DAMAGE SKETCH

## TIRE—WHEEL DAMAGE

a. Rotation physically restricted      b. Tire deflated

RF <u>2</u>	RF <u>1</u>
LF <u>1</u>	LF <u>2</u>
RR <u>2</u>	RR <u>2</u>
LR <u>2</u>	LR <u>2</u>

(1) Yes (2) No (8) NA (9) Unk.

## ORIGINAL SPECIFICATIONS

Wheelbase (103.1") 261.9 cm  
 Overall Length (187.8") 477.0 cm  
 Maximum Width (69.7") 177.0 cm  
 Curb Weight (2,943 lb) 1,334.9 kg  
 Average Track (60.0") 152.4 cm  
 Front Overhang (39.2") 99.6 cm  
 Rear Overhang (45.5") 115.6 cm  
 Undeformed End Width (54.0") 137.2 cm  
 Engine Size: cyl./displ. 2.2 L

WHEEL STEER ANGLES  
 (For locked front wheels or  
 displaced rear axles only)

RF  $\pm$  0 2 °  
 LF  $\pm$  0 2 °  
 RR  $\pm$  X °  
 LR  $\pm$  X °

Within  $\pm$  5 degrees

## TYPE OF TRANSMISSION

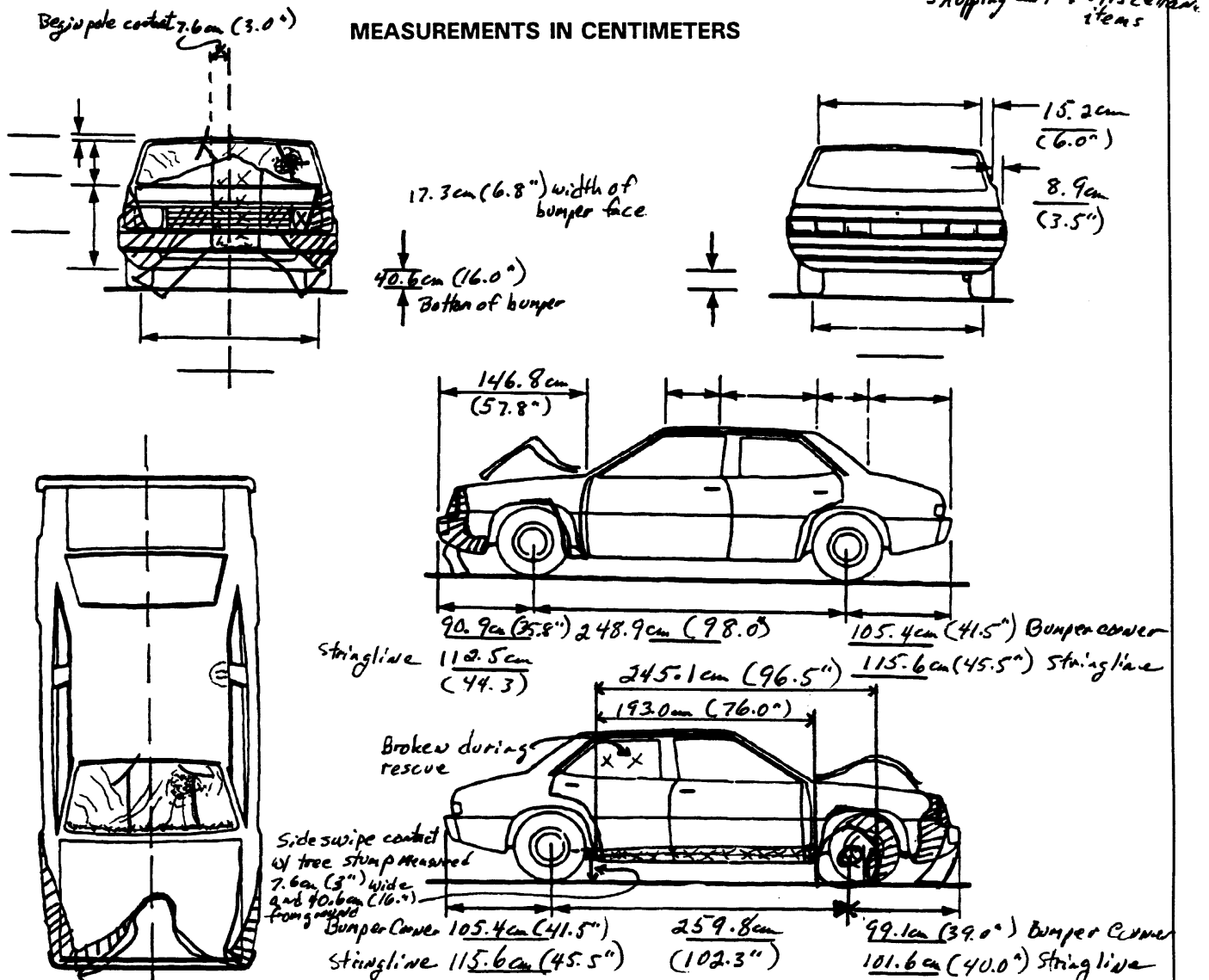
☐ Manual    ☒ Automatic

## DRIVE WHEELS

☒ FWD    ☐ RWD    ☐ 4WD

Approximate  
 Cargo Weight (2016) 9.1 kg

## MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

## CODES FOR OBJECT CONTACTED

(57) Fence

(58) Wall

- (59) Building

- (60) Ditch or culvert

- (61) Ground

- (62) Fire hydrant

- (63) Curb

- (64) Bridge

- (68) Other fixed object (specify):

- ## Tree Stump

- (69) Unknown fixed object

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport

- (72) **Pedestrian**

- (73) Cyclist or cycle

- (74) Other nonmotorist or conveyance

- (75) Vehicle occupant

- (76) Animal

- (77) Train

- (78) Trailer, disconnected in transport

- (79) Object fell from vehicle in-transport

- (88) Other nonfixed object (specify):

- (89) Unknown nonfixed object

- (98) Other event (specify):

- (99) Unknown event or object

[illegible]



## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>0 2</u>	5. <u>4 2</u>	6. <u>1 2</u>	7. <u>F</u>	8. <u>C</u>	9. <u>E</u>	10. <u>N</u>	11. <u>0 3</u>

## Second Highest Delta "V"

12. <u>0 1</u>	13. <u>6 8</u>	14. <u>1 2</u>	15. <u>R</u>	16. <u>Y</u>	17. <u>E</u>	18. <u>S</u>	19. <u>0 1</u>
----------------	----------------	----------------	--------------	--------------	--------------	--------------	----------------

Tree stump ↑

## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	22. <u>±D</u>
<u>1 3 7</u>	<u>0 1 1</u> (4.5")	<u>0 3 9</u> (15.4")	<u>0 7 2</u> (28.2")	<u>0 7 9</u> (30.9")	<u>0 3 8</u> (15.1")	<u>0 1 4</u> (5.5")	<u>0 0 1 1</u> (± 4.5")

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	25. <u>±D</u>
<u>2 4 5</u>	<u>0 0 0</u> (0.1")	<u>0 0 0</u> (0.1")	<u>0 0 0</u> (0.1")	<u>0 0 0</u> (0.1")	<u>0 0 1</u> (0.3")	<u>0 0 4</u> (1.5")	<u>0 0 2 7</u> (± 10.5")

26. Are CDCs Documented but Not Coded on The Automated File? 0  
(0) No  
(1) Yes

27. Researcher's Assessment of Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

28. Original Wheelbase 2 6 2  
Code to the nearest centimeter  
(999) Unknown

\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters

29. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? (0) No post manufacturer modifications (1) Yes - post manufacturer modifications (specify): _____ _____ (Include photograph of CERTIFICATION PLACARD in case report) (9) Unknown if vehicle is modified	<u>0</u>	34. Fuel Tank-1 Location	<u>4</u>
		35. Fuel Tank-2 Location (0) No fuel tank (1) Aft of center of the rear wheels (rear axle) centered (2) Aft of center of the rear wheels (rear axle) left side (3) Aft of center of the rear wheels (rear axle) right side (4) Forward of center of the rear wheels (rear axle) centered (5) Forward of center of the rear wheels (rear axle) left side (6) Forward of center of the rear wheels (rear axle) right side (7) Over center of the rear wheels (rear axle) (8) Other (specify): _____ (9) Unknown	<u>0</u>
30. Fire Occurrence (0) No fire  Yes, fire occurred (1) Minor (2) Major (9) Unknown	<u>0</u>		
31. Origin of Fire (0) No fire (1) Vehicle exterior (front, side, back, top) (2) Exhaust system (3) Fuel tank (and other fuel retention system parts) (4) Engine compartment (5) Cargo/trunk compartment (6) Instrument panel (7) Passenger compartment area (8) Other location (specify): _____ (9) Unknown	<u>0</u>	36. Fuel Tank-1 Filler Cap Location	<u>2</u>
		37. Fuel Tank-2 Filler Cap Location (0) No fuel tank (1) On back plane (2) Aft of center of the rear wheels (rear axle) on left side plane (3) Aft of center of the rear wheels (rear axle) on right side plane (4) Forward of center of the rear wheels (rear axle) on left side plane (5) Forward of center of the rear wheels (rear axle) on right side plane (6) Over the center of the rear wheels (rear axle) on left side plane (7) Over the center of the rear wheels (rear axle) on right side plane (8) Other (specify): _____ (9) Unknown	<u>0</u>
32. Type of Fuel Tank-1	<u>1</u>		
33. Type of Fuel Tank-2 (0) No fuel tank (electrical vehicle) (1) Metallic (2) Non-metallic (9) Unknown	<u>0</u>	38. Fuel Tank-1 Damage	<u>1</u>
		39. Fuel Tank-2 Damage (0) No fuel tank (1) No damage to fuel tank (2) Deformed, no seam failure (3) Deformed, with a seam failure (4) Punctured (5) Lacerated (ripped) (6) Abraded (scraped) (7) Filler neck separation from the fuel tank (8) Other damage (specify): _____ (9) Unknown	<u>0</u>

<p>40. Location of Fuel System-1 Leakage <span style="float: right;"><u>1</u></span></p> <p>41. Location of Fuel System-2 Leakage <span style="float: right;"><u>0</u></span></p> <p style="margin-left: 20px;">(0) No fuel tank</p> <p style="margin-left: 20px;">(1) No fuel leakage</p> <p style="margin-left: 20px;"><i>Primary Area Of Leakage</i></p> <p style="margin-left: 20px;">(2) Tank</p> <p style="margin-left: 20px;">(3) Filler neck</p> <p style="margin-left: 20px;">(4) Cap</p> <p style="margin-left: 20px;">(5) Lines/pump/filter</p> <p style="margin-left: 20px;">(6) Vent/emission recovery</p> <p style="margin-left: 20px;">(8) Other (specify): _____</p> <p style="margin-left: 20px;">(9) Unknown</p> <p>42. Fuel Type-1 <span style="float: right;"><u>0 1</u></span></p> <p>43. Fuel Type-2 <span style="float: right;"><u>0 0</u></span></p> <p style="margin-left: 20px;"><i>Single Fuel Type</i></p> <p style="margin-left: 20px;">(00) No fuel tank</p> <p style="margin-left: 20px;">(01) Gasoline</p> <p style="margin-left: 20px;">(02) Diesel</p> <p style="margin-left: 20px;">(03) CNG (Compressed Natural Gas)</p> <p style="margin-left: 20px;">(04) LPG (Liquid Petroleum Gas) also known as Propane</p> <p style="margin-left: 20px;">(05) LNG (Liquid Natural Gas)</p> <p style="margin-left: 20px;">(06) Methanol (M100 or M85)</p> <p style="margin-left: 20px;">(07) Ethanol (E100 or E85)</p> <p style="margin-left: 20px;">(08) Other (Hydrogen or others) (specify): _____</p> <p style="margin-left: 20px;"><i>Electric Powered or Electric/Solar Powered Vehicles</i></p> <p style="margin-left: 20px;">(10) Lead Acid Battery</p> <p style="margin-left: 20px;">(11) Nickel-Iron Battery</p> <p style="margin-left: 20px;">(12) Nickel-Cadmium Battery</p> <p style="margin-left: 20px;">(13) Sodium Metal Chloride Battery</p> <p style="margin-left: 20px;">(14) Sodium Sulfur Battery</p> <p style="margin-left: 20px;">(18) Other (Specify): _____</p> <p style="margin-left: 20px;">(98) Other Hybrid (specify): _____</p> <p style="margin-left: 20px;">(99) Unknown fuel type</p>	<p>44. Is This Vehicle Equipped With More Than Two Fuel Tanks? <span style="float: right;"><u>0</u></span></p> <p style="margin-left: 20px;">(0) No (one or two tanks only)</p> <p style="margin-left: 20px;"><i>Yes - More Than Two Tanks</i></p> <p style="margin-left: 20px;">(1) Yes -- <u>no damage</u> to any tank or filler cap and <u>no fuel system leakage</u></p> <p style="margin-left: 20px;">(2) Yes -- <u>no damage</u> to any tank or filler cap but <u>there is fuel system leakage</u> (specify leakage location): _____</p> <p style="margin-left: 20px;">(3) Yes -- <u>damage</u> to an additional tank or filler cap and <u>there is fuel system leakage</u> (specify the following):  Type of tank _____  Tank location _____  Filler cap location _____  Tank damage _____  Location of leakage _____  Type of fuel _____</p> <p style="margin-left: 20px;">(9) Unknown if more than two tanks</p> <div style="text-align: center; border: 1px solid black; padding: 5px; margin-top: 10px;"> <b>COMMENTS</b> </div> <div style="border: 1px solid black; height: 150px; margin-top: 5px;"></div>
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\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*

(I.E., GV09=0 OR 9 AND GV36=0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



## INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number           

2. Case Number - Stratum 94-31

3. Vehicle Number 01

### INTEGRITY

4. Passenger Compartment Integrity 00

(00) No integrity loss

Yes, Integrity Was Lost Through

- (01) Windshield
- (02) Door (side)
- (03) Door/hatch (back door)
- (04) Roof
- (05) Roof glass
- (06) Side window
- (07) Rear window (backlight)
- (08) Roof and roof glass
- (09) Windshield and door (side)
- (10) Windshield and roof
- (11) Side and rear window (side window and backlight)
- (12) Windshield and side window
- (13) Door and side window
- (98) Other combination of above (specify):  
\_\_\_\_\_

(99) Unknown

### Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

- (0) No door/gate/hatch
- (1) Door/gate/hatch remained closed and operational
- (2) Door/gate/hatch came open during collision
- (3) Door/gate/hatch jammed shut
- (8) Other (specify):  
\_\_\_\_\_

(9) Unknown

### Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

- (1) Door operational (no damage)
- (2) Latch/striker failure due to damage
- (3) Hinge failure due to damage
- (4) Door structure failure due to damage
- (5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
- (6) Latch/striker and hinge failure due to damage
- (8) Other failure (specify):  
\_\_\_\_\_

(9) Unknown

### GLAZING

#### Glazing Damage from Impact Forces

15. WS 2 16. LF 0 17. RF 0 18. LR 0 19. RR 0

20. BL 0 21. Roof 8 22. Other 8

- (0) No glazing damage from impact forces
  - (2) Glazing in place and cracked from impact forces
  - (3) Glazing in place and holed from impact forces
  - (4) Glazing out-of-place (cracked or not) and not holed from impact forces
  - (5) Glazing out-of-place and holed from impact forces
  - (6) Glazing disintegrated from impact forces
  - (7) Glazing removed prior to accident
  - (8) No glazing
  - (9) Unknown if damaged
- Broken during rescue*

#### Glazing Damage from Occupant Contact

23. WS 2 24. LF 0 25. RF 0 26. LR 0 27. RR 0

28. BL 0 29. Roof 0 30. Other 0

- (0) No occupant contact to glazing or no glazing
- (1) Glazing contacted by occupant but no glazing damage
- (2) Glazing in place and cracked by occupant contact
- (3) Glazing in place and holed by occupant contact
- (4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
- (5) Glazing out-of-place by occupant contact and holed by occupant contact
- (6) Glazing disintegrated by occupant contact
- (9) Unknown if contacted by occupant

If No Glazing Damage **And** No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As 0

#### Type of Window/Windshield Glazing

31. WS 1 32. LF 0 33. RF 0 34. LR 0 35. RR 0

36. BL 0 37. Roof 0 38. Other 0

- (0) No glazing contact and no damage, or no glazing
- (1) AS-1 - Laminated
- (2) AS-2 - Tempered
- (3) AS-3 - Tempered-tinted
- (4) AS-14 - Glass/Plastic
- (8) Other (specify):  
\_\_\_\_\_

(9) Unknown

#### Window Precrash Glazing Status

39. WS 1 40. LF 0 41. RF 0 42. LR 0 43. RR 0

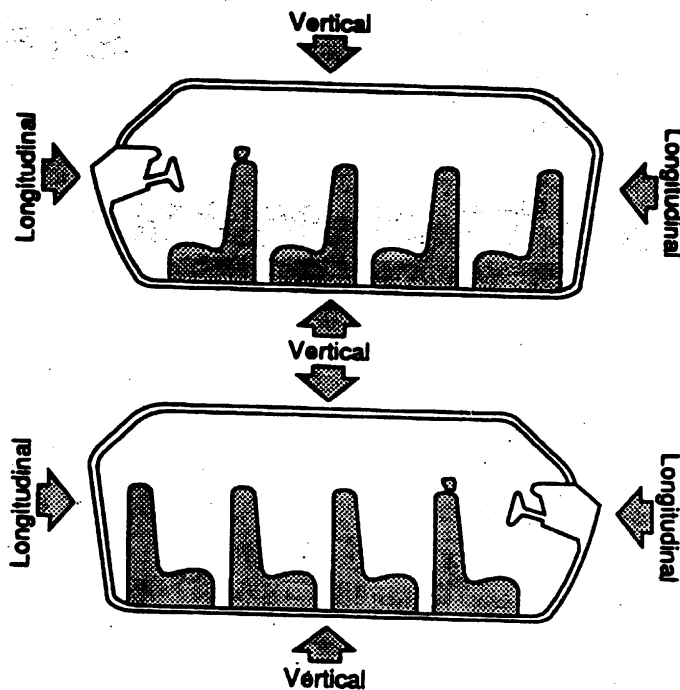
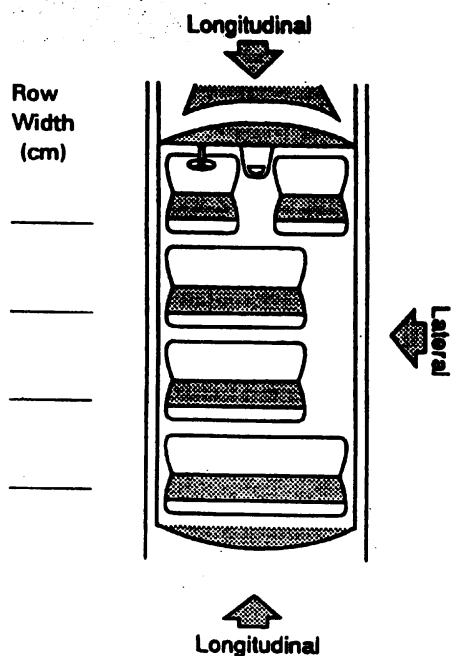
44. BL 0 45. Roof 0 46. Other 0

- (0) No glazing contact and no damage, or no glazing
- (1) Fixed
- (2) Closed
- (3) Partially opened
- (4) Fully opened
- (9) Unknown



## INTRUSION WORKSHEET

Note: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	INTRUSION	
11	Toe PAN	-		= 17.3 cm (6.75")	Long
11	Instrument Panel	-		= 0.8 cm (0.25")	"
12	"	-		= 2.5 cm (1.0")	"
13	"	-		= 2.0 cm (0.75")	"
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	

Document no more than the 15 most severe intrusions

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

## INTRUDING COMPONENT

## Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify):

- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

## Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify):
- (32) Other exterior object in the environment (specify):
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify):
- (99) Unknown

## LOCATION OF INTRUSION

## Front Seat

- (11) Left
- (12) Middle
- (13) Right

## Fourth Seat

- (41) Left
- (42) Middle
- (43) Right

## Second Seat

- (21) Left
- (22) Middle
- (23) Right

- (97) Catastrophic
- (98) Other enclosed area (specify)

(99) Unknown

## Third Seat

- (31) Left
- (32) Middle
- (33) Right

## MAGNITUDE OF INTRUSION

- (1)  $\geq 3$  centimeters but  $< 8$  centimeters
- (2)  $\geq 8$  centimeters but  $< 15$  centimeters
- (3)  $\geq 15$  centimeters but  $< 30$  centimeters
- (4)  $\geq 30$  centimeters but  $< 46$  centimeters
- (5)  $\geq 46$  centimeters but  $< 61$  centimeters
- (6)  $\geq 61$  centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE	—	DAMAGE VALUE	=	DEFORMATION
------------------	---	--------------	---	-------------

	—		=	6.4 cm (2.5")
	—		=	
	—		=	
	—		=	

## STEERING COLUMN

87. Steering Column Type 2

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify):

*Jammed in center position*

(9) Unknown

88. Blank X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.)

89. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.)

90. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.)

91. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.)

92. Steering Rim/Spoke Deformation 0 6

Code actual measured deformation to the nearest centimeter (2.3")

- (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

93. Location of Steering Rim/Spoke Deformation 0 1

(00) No steering rim deformation

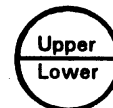
## Quarter Sections

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D



## Half Sections

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

## INSTRUMENT PANEL

94. Odometer Reading 0 5 7,000

\_\_\_\_\_ kilometers—Code to the nearest 1,000 kilometers

- (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown

13.594 miles X 1.6093 = 57.281 kilometers

Source: \_\_\_\_\_

95. Instrument Panel Damage from Occupant Contact? 1

- (0) No  
 (1) Yes  
 (9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? 1

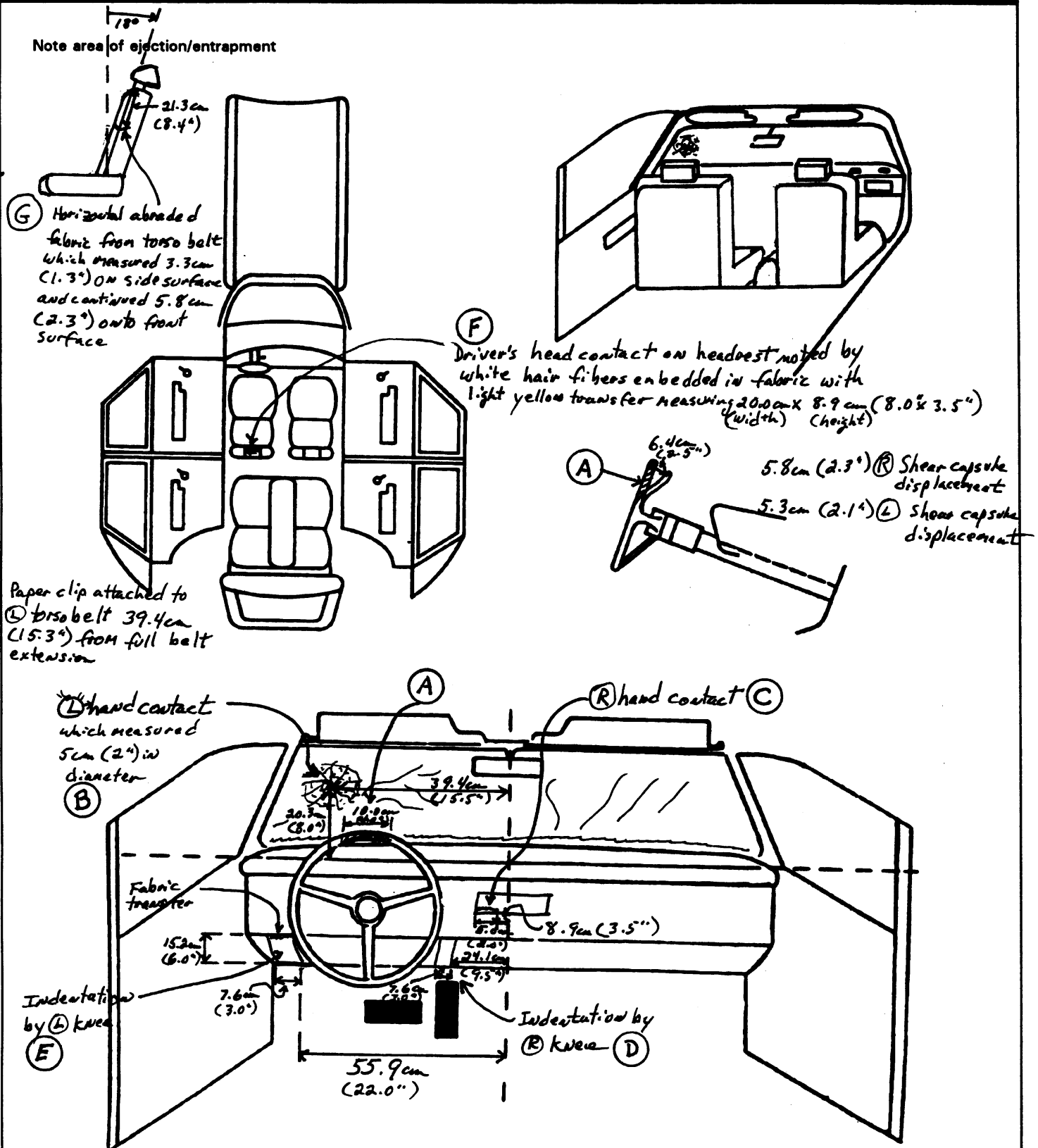
- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? 0

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown



## VEHICLE INTERIOR SKETCHES



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	04	1	Head	Rim deformed	1
B	01	1	(L) hand	Typical Spider Web & tissue transfer	1
C	10	1	(R) hand	Heater control panel displaced inward	1
D	13	1	(R) knee	Displaced inward	1
E	13	1	(L) knee	Displaced inward w/ fabric transfer	1
F	44	1	Head	Gray hair imbedded in fabric / light yellow transfer	1
G	41	1	Torso	Yellow abraded mark from synthetic fabric	1
H				of blouse	
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar

- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)

- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
F I R S T	Availability/Function	1	0
	Deployment	1	0
	Failure	2	0

#### Air Bag System Availability/Function

- (0) Not equipped/not available  
(1) Air bag

#### Non-functional

- (2) Air bag disconnected (specify): \_\_\_\_\_

- (3) Air bag not reinstalled

- (9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available  
(1) Air bag deployed during accident (as a result of impact)  
(2) Air bag deployed inadvertently just prior to accident  
(3) Air bag deployed, accident sequence undetermined  
(4) Nondeployed  
(5) Unknown if deployed  
(6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(9) Unknown

#### Are There Indications of Air Bag System Failure?

- (0) Not equipped/not available  
(1) No

- (2) Yes (specify):

Air bag fabric tear  
(9) Unknown  
on instrument panel side of air bag extending from the (L) vent port (top) down along (L) side of air bag.

### AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function	/	/
	Use	/	/
	Type	/	/
	Proper Use	/	/
	Failure Modes	/	/

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available  
(1) 2 point automatic belts  
(2) 3 point automatic belts  
(3) Automatic belts - type unknown

#### Non-functional

- (4) Automatic belts destroyed or rendered inoperative  
(9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Automatic belt in use  
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)  
(3) Automatic belt use unknown  
(9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available  
(1) Non-motorized system  
(2) Motorized system  
(9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used  
(1) Automatic belt used properly  
(2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm  
(4) Automatic shoulder belt worn behind back  
(5) Automatic belt worn around more than one person  
(6) Lap portion of automatic belt worn on abdomen  
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_  
(8) Other improper use of automatic belt system (specify): \_\_\_\_\_  
(9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use  
(1) No automatic belt failure(s)  
(2) Torn webbing (stretched webbing not included)  
(3) Broken buckle or latchplate  
(4) Upper anchorage separated  
(5) Other anchorage separated (specify): \_\_\_\_\_  
(6) Broken retractor  
(7) Combination of above (specify): \_\_\_\_\_  
(8) Other automatic belt failure (specify): \_\_\_\_\_  
(9) Unknown

## MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	/	4
	Evidence of usage	04		00
	Used in this crash?	4		0
	Proper Use	3		0
	Failure Modes	1		0
SECOND	Availability	4	3	4
	Evidence of usage	00	00	00
	Used in this crash?	0	0	0
	Proper Use	0	0	0
	Failure Modes	0	0	0
OTHER	Availability	/	/	/
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			

## Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

## Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

## Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify): \_\_\_\_\_

(02) Shoulder belt

(03) Lap belt

(04) Lap and shoulder belt

(05) Belt used - type unknown

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat

(13) Lap belt used with child safety seat

(14) Lap and shoulder belt used with child safety seat

(15) Belt used with child safety seat - type unknown

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used

## Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

## Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

## Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown



## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage
- Note: Options Below Are Used for Variables 3-5.
- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

- 6. Child Safety Seat Make/Model
- (Specify make/model and occupant number)

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## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Head Restraint Type/Damage	3		3
	Seat Type	01		01
	Seat Performance	1		1
	Seat Orientation	1		1
S E C O N D	Head Restraint Type/Damage	1	0	1
	Seat Type	05	05	05
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
T H I R D	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
O T H E R	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other (specify):

(9) Unknown

## Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify):

(10) Box mounted seat (i.e., van type)

(99) Unknown

## Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify:
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify):

(7) Combination of above (specify):

(8) Other (specify):

(9) Unknown

## Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):

(9) Unknown

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No [ ☒ ] Yes [ ☐ ]

Describe indications of ejection and body parts involved in partial ejection(s):

---



---



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---



---

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

- (9) Unknown

**Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

- (9) Unknown

**Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT** No [ ☒ ] Yes [ ☐ ]

Describe entrapment mechanism:

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Component(s):

---

(Note in vehicle interior diagram)



# OCCUPANT ASSESSMENT FORM

BEST AVAILABLE

Form Approved  
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number     

2. Case Number - Stratum 94-31

3. Vehicle Number 01

4. Occupant Number 01

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 80

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex 2

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height 155

Code actual height to the nearest  
centimeter.

(999) Unknown

     inches X 2.54 =      centimeters

8. Occupant's Weight 064

Code actual weight to the nearest  
kilogram.

(999) Unknown

     pounds X .4536 =      kilograms

9. Occupant's Role 1

(1) Driver

(2) Passenger

(9) Unknown

## OCCUPANT'S SEATING

10. Occupant's Seat Position 11

*Front Seat*

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):     

(15) On or in the lap of another occupant

*Second Seat*

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):     

(25) On or in the lap of another occupant

*Third Seat*

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):     

(35) On or in the lap of another occupant

*Fourth Seat*

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):     

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):     

(99) Unknown

11. Occupant's Posture 0

(0) Normal posture

*Abnormal posture*

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):     

(9) Unknown



## EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use 0 4

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt \_\_\_\_\_

(03) Lap belt \_\_\_\_\_

(04) Lap and shoulder belt \_\_\_\_\_

(05) Belt used—type unknown \_\_\_\_\_

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat \_\_\_\_\_

(13) Lap belt used with child safety seat \_\_\_\_\_

(14) Lap and shoulder belt used with child safety seat \_\_\_\_\_

(15) Belt used with child safety seat—type unknown \_\_\_\_\_

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used \_\_\_\_\_

19. Proper Use of Manual (Active) Belts 3

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function 1

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment 1

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 2

(0) Not equipped/not available

(1) No

(2) Yes (specify):

35.6 cm tear in air bag fabric

(9) Unknown

Note: See Variables 44 through 48 (Page 5) for information on Automatic Belts

24. Police Reported Restraint Use 4

- (0) None used
- (1) Police did not indicate restraint use α
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): 7

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown"

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant  
at This Occupant Position 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown \_\_\_\_\_

26. Seat Type (this Occupant Position) 01

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_
- (10) Box mounted seat (i.e., van type)
- (99) Unknown \_\_\_\_\_

27. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown \_\_\_\_\_

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000  
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):

(998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat 0  
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation 01  
 (00) No child safety seat  
*Designed for Rear Facing for This Age/Weight*  
 (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 (09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 (19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 (29) Unknown orientation  
 (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00

32. Child Safety Seat Shield Usage 00

33. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
 Variables OA31-OA33.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used



## INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 4

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 1

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):
- (9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 0

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):
- (9) Unknown

37. Hospital Stay 00

- (00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

- (61) 61 days or more
- (99) Unknown

38. Working Days Lost 62

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
  - (61) 61 days or more
  - (62) Fatally injured
  - (97) Not working prior to accident
  - (99) Unknown

STOP - GO TO VARIABLE 44 ON PAGE 7

VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER

39. Time to Death 01

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
  - (96) Fatal - ruled disease
  - (99) Unknown

40. 1st Medically Reported Cause of Death 1041. 2nd Medically Reported Cause of Death 0942. 3rd Medically Reported Cause of Death 11

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
  - (96) Mode of death given but specific injuries are not linked to cause of death. (specify):

- (97) Other result (includes fatal ruled disease) (specify):

- (99) Unknown

43. Number of Recorded Injuries for This Occupant 18

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
  - (97) Injured, details unknown
  - (99) Unknown if injured

## AUTOMATIC BELT SYSTEM

44. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available  
 (1) 2 point automatic belts  
 (2) 3 point automatic belts  
 (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative  
 (9) Unknown

45. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Automatic belt in use  
 (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):  
 (3) Automatic belt use unknown  
 (9) Unknown

46. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available  
 (1) Non-motorized system  
 (2) Motorized system  
 (9) Unknown

47. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used  
 (1) Automatic belt used properly  
 (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm  
 (4) Automatic shoulder belt worn behind back  
 (5) Automatic belt worn around more than one person  
 (6) Lap portion of automatic belt worn on abdomen  
 (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):  
 (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use  
 (1) No automatic belt failure(s)  
 (2) Torn webbing (stretched webbing not included)  
 (3) Broken buckle or latchplate  
 (4) Upper anchorage separated  
 (5) Other anchorage separated (specify):  
 (6) Broken retractor  
 (7) Combination of above (specify):  
 (8) Other automatic belt failure (specify):  
 (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):  
 (9) Unknown

Check the Primary Source Used In Determining Belt Use.

[ ] Not equipped/not available/destroyed or rendered inoperative

[X] Vehicle inspection

[X] Official injury data

[ ] Driver/occupant interview

[X] Other (specify):

*On-scene photographs/Police*

[ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO [ ] YES [ ]

UPDATE CANDIDATE?

NO [ ] YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER**

### TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score 01  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured

51. Was the Occupant Given Blood? 1  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given

52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  01  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the  $\text{HCO}_3$   
 (96) ABGs reported,  $\text{HCO}_3$  unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

### BELT USE DETERMINATION

53. Primary Source of Belt Use Determination 8  
 (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Vehicle inspection  
 (2) Official injury data  
 (3) Driver/occupant interview  
 (8) Other (specify): on-scene photographs  
 (9) Unknown if belt used

*Injury Data*  
*Police Report*



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

BEST AVAILABLE  
Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number       

2. Case Number - Stratum 94-31

3. Vehicle Number 01

4. Occupant Number 01

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	Body Region	A.I.S. - 90			Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number
		Type of Anatomic Structure	Specific Anatomic Structure								

<i>Facial abrasion</i> 1st	5. <u>1</u>	6. <u>2</u>	7. <u>9</u>	8. <u>02</u>	9. <u>02</u>	10. <u>1</u>	11. <u>0</u>	12. <u>45</u>	13. <u>1</u>	14. <u>1</u>	15. <u>02</u>
<i>Neck abrasion</i> 2nd	16. <u>1</u>	17. <u>3</u>	18. <u>9</u>	19. <u>02</u>	20. <u>02</u>	21. <u>1</u>	22. <u>2</u>	23. <u>45</u>	24. <u>1</u>	25. <u>1</u>	26. <u>02</u>
<i>Chest abrasion</i> 3rd	27. <u>1</u>	28. <u>4</u>	29. <u>9</u>	30. <u>02</u>	31. <u>02</u>	32. <u>1</u>	33. <u>1</u>	34. <u>45</u>	35. <u>1</u>	36. <u>1</u>	37. <u>02</u>
<i>Cont. of chest</i> 4th	38. <u>1</u>	39. <u>4</u>	40. <u>9</u>	41. <u>04</u>	42. <u>02</u>	43. <u>1</u>	44. <u>2</u>	45. <u>16</u>	46. <u>1</u>	47. <u>1</u>	48. <u>02</u>
<i>abrasion chest</i> 5th	49. <u>1</u>	50. <u>4</u>	51. <u>9</u>	52. <u>02</u>	53. <u>02</u>	54. <u>1</u>	55. <u>2</u>	56. <u>41</u>	57. <u>1</u>	58. <u>1</u>	59. <u>02</u>
<i>abrasion chest</i> 6th	60. <u>1</u>	61. <u>4</u>	62. <u>9</u>	63. <u>02</u>	64. <u>02</u>	65. <u>1</u>	66. <u>1</u>	67. <u>41</u>	68. <u>1</u>	69. <u>1</u>	70. <u>02</u>
<i>Cont. of chest</i> 7th	71. <u>1</u>	72. <u>4</u>	73. <u>9</u>	74. <u>04</u>	75. <u>02</u>	76. <u>1</u>	77. <u>2</u>	78. <u>41</u>	79. <u>1</u>	80. <u>1</u>	81. <u>02</u>
<i>Cont. of chest</i> 8th	82. <u>1</u>	83. <u>5</u>	84. <u>9</u>	85. <u>04</u>	86. <u>02</u>	87. <u>1</u>	88. <u>7</u>	89. <u>41</u>	90. <u>1</u>	91. <u>1</u>	92. <u>02</u>
<i>Pi Pub Fr</i> 9th	93. <u>1</u>	94. <u>4</u>	95. <u>5</u>	96. <u>02</u>	97. <u>42</u>	98. <u>5</u>	99. <u>3</u>	100. <u>04</u> <u>45</u>	101. <u>1</u>	102. <u>1</u>	103. <u>02</u>
<i>Cont. of chest</i> 10th	104. <u>1</u>	105. <u>4</u>	106. <u>2</u>	107. <u>02</u>	108. <u>10</u>	109. <u>5</u>	110. <u>4</u>	111. <u>04</u> <u>45</u>	112. <u>1</u>	113. <u>1</u>	114. <u>02</u>

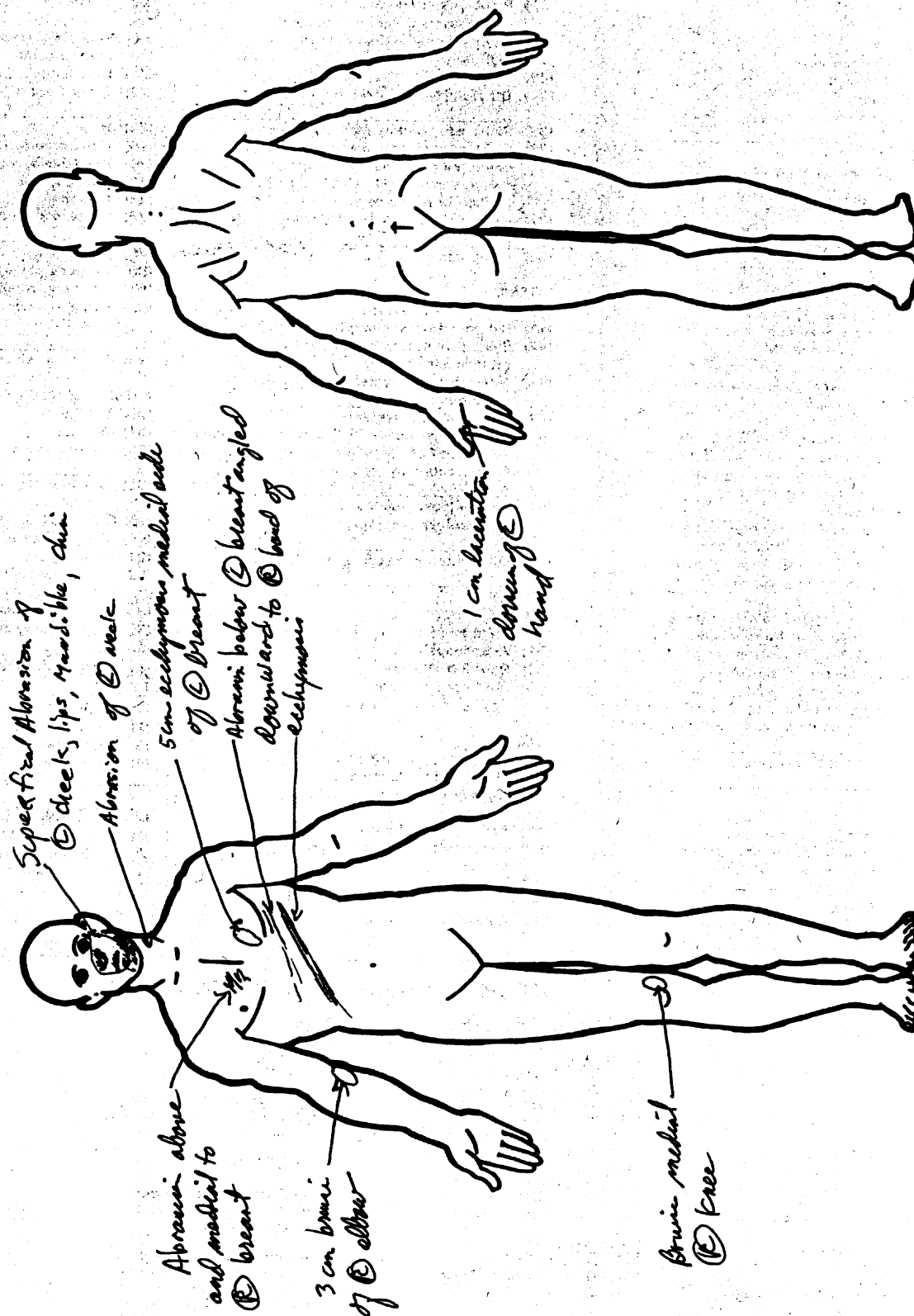


## BEST AVAILABLE

[illegible]

## OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR of OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****Body Region**

- (1) Head
- (2) Face
- (3) Neck
- (4) Thorax
- (5) Abdomen
- (6) Spine
- (7) Upper Extremity
- (8) Lower Extremity
- (9) Unspecified

**Type of Anatomic Structure**

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4) Organs (includes muscles/ligaments)
- (5) Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

**Specific Anatomic Structure****Whole Area**

- (02) Skin - Abrasion
- (04) Skin - Contusion
- (06) Skin - Laceration
- (08) Skin - Avulsion
- (10) Amputation
- (20) Burn
- (30) Crush
- (40) Degloving
- (50) Injury - NFS
- (90) Trauma, other than mechanical

**Head - LOC**

- (02) Length of LOC
- (04, 06, 08) Level of Consciousness
- (10) Concussion

**Spine**

- (02) Cervical
- (04) Thoracic
- (06) Lumbar

**Vessels, Nerves, Organs, Bones,**

Joints are assigned consecutive two digit numbers beginning with 02

**Level of Injury**

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

**Abbreviated Injury Scale**

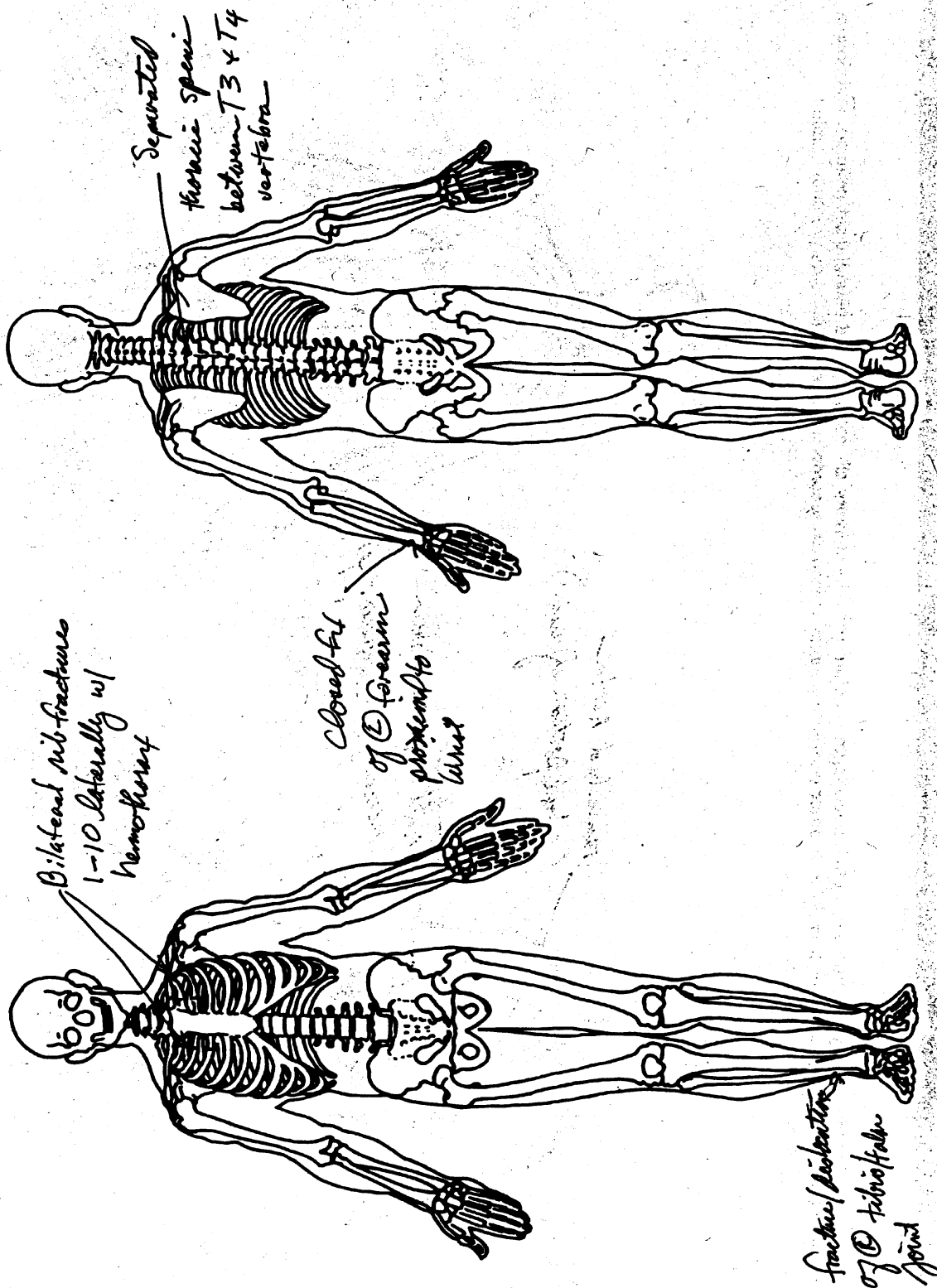
- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

**Aspect**

- (1) Right
- (2) Left
- (3) Bilateral
- (4) Central
- (5) Anterior
- (6) Posterior
- (7) Superior
- (8) Inferior
- (9) Unknown
- (0) Whole region

## OFFICIAL INJURY DATA — SKELETAL INJURIES

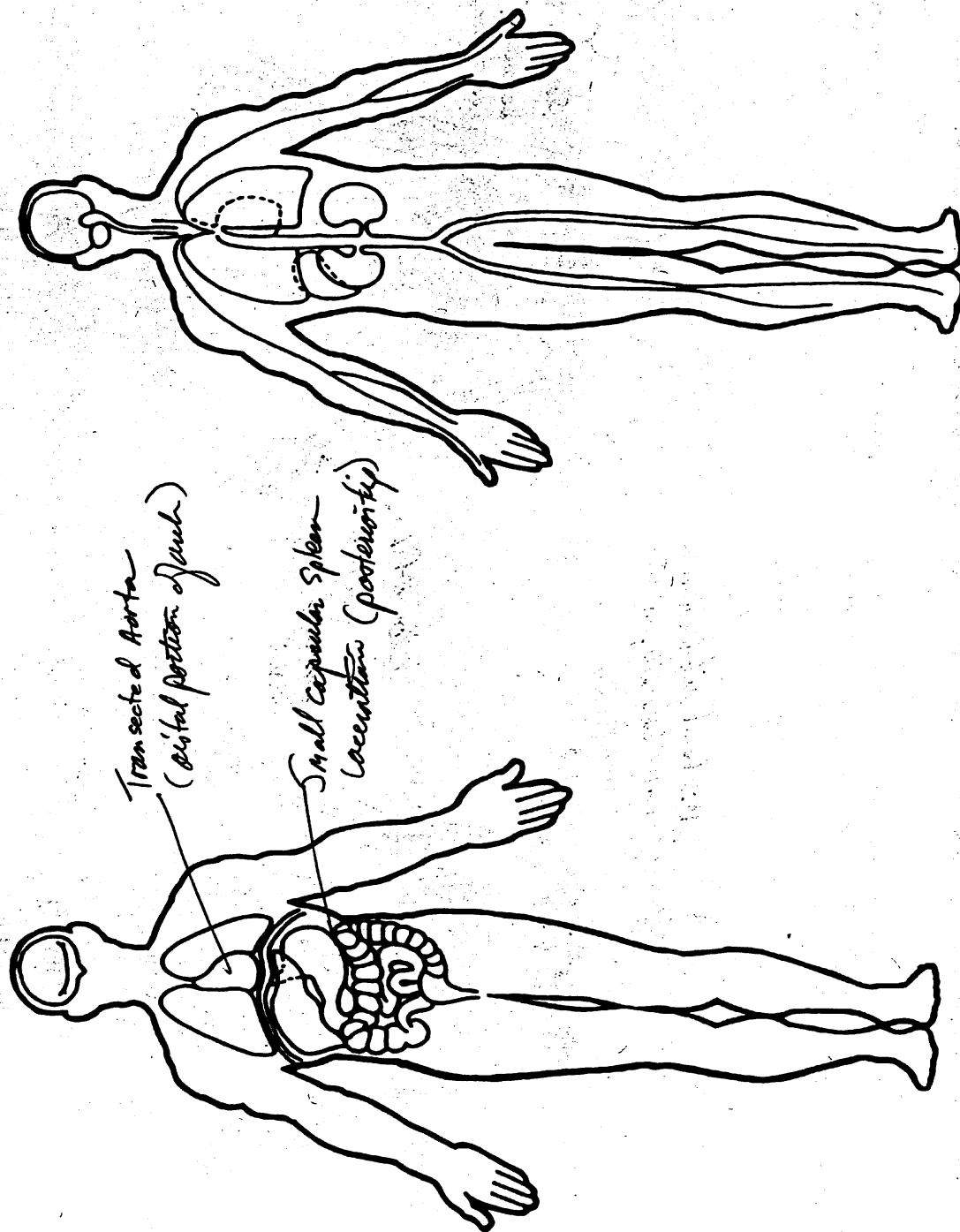
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Restrained? ☒ No ☐ YesBlood Alcohol  
Level (mg/dl)BAL = 0Glasgow Coma  
Scale ScoreGCSS = 15Units of Blood  
GivenUnits = 1Arterial Blood  
GasespH = 7.35PO<sub>2</sub> = 100PCO<sub>2</sub> = 40HCO<sub>3</sub> = 24



## OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



ACCIDENT SUMMARY

ACCIDENT DATE           194          

POLICE INVESTIGATED (1,2,9)\*  
\_\_\_\_\_  
\_\_\_\_\_

City - - - - County - - -

GENERAL LOCALITY

- (1) Freeway, Limited Access
- (2) Urban (City)
- (3) Urban-Rural (mixed)
- (4) Rural, Fields

CONFIGURATION (First Harm)

- (0) Struck Object or Pedestrian
- (1) Rear-End
- (2) Head-On
- (3) Rear-to-Rear
- (4) Angle
- (5) Sideswipe-Same Direction
- (6) Sideswipe-Opposite Direct.
- (7) NonColl:eg Fell from Veh
- (8) NonImpact Deployment
- (9) Unknown

FIRE INVOLVED (0) None

- (1) AirBag Vehicle
- (2) Other Vehicle
- (3) Both Vehicles
- (9) Unknown

NUMBER: VEHICLES INVOLVED

(8)=8 or more

PERSONS INVOLVED

INJURED PERSONS

MAXIMUM AIS IN ACCIDENT

OTHER VEHICLE: MAXIMUM AIS

PRIME/DEPLOY IMPACT w AB VEH:  
EVENT NUMBER

CDC - - - - -

TOTAL DELTA-V

Model Year, Make, Model, Body Type:

AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED           194          

REASON VEHICLE NOT INSPECTED

- (0) Not Required
- (1) Inspection Completed
- (2) Cannot be Located\*\*
- (3) Repaired or Destroyed\*\*
- (5) Refual or Impounded\*\*
- (7) Other\*

\*\*Specify: \_\_\_\_\_

IMPACT DATA OBTAINED

- (0) No Data Obtained
- (1) CDC Only
- (2) Crush Profile Only
- (3) Trajectory Data Only
- (4) CDC and Crush Profile
- (5) CDC and Trajectory
- (6) Crush and Trajectory
- (7) CDC, Crush & Trajectory

BASIS OF DELTA-V

- (0) Not Computed (Unknown Why)
- (1) CRASH - Damage Only
- (2) CRASH - Damage+Trajectory
- (3) Missing Vehicle Algorithm
- (4) Yielding Object Algorithm
- (5) Unknown Basis
- (6) One Vehicle Beyond Scope
- (7) Collision Beyond Scope
- (8) Insufficient Data

VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN  
ANY PRIOR IMPACTS (1,2,9)\*

HAS ANY PRIOR MAINTENANCE/SERVICE  
BEEN PERFORMED ON SYSTEM(1,2,9)\*

\*Describe: Vehicle repair records stored  
in glove box did not identify any  
repairs to air bag system.

AIRBAG VEHICLE: FLEET \_\_\_\_\_

VIN J12SK12E7N0  
(Serial #omitted)

MILEAGE 57,281 km  
(13,594 miles)

DRAFT -           /85          

\* (1)=Yes, (2)=No, (9)=Unknown

SYSTEM READINESS LAMP  
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

DRIVER'S REPORT OF  
PRE-IMPACT FLASHING

- (00) No Flashing Reported
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not App (system removed)
- (99) Unknown

PERIOD OF PRE-IMPACT FLASHING

- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown

POST-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

POST-IMPACT FLASHING

- (00) No Flashing
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not Appl (removed)
- (99) Unknown

AIRBAG VEHICLE  
FIRST HARMFUL EVENT

44

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife with intraunit damage  
Collision With:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder  
Collision with Fixed Object:
- (20) Building
- (21) Impact attenuator/Crash Cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/Traffic sign post
- (30) Overhead sign support
- (31) Luminaire/Light support
- (32) Utility pole
- (33) Other post, pole, or support (specify):
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone or concrete
- (39) Fence (wooden, wire, chain link, etc.)
- (40) Wall (stone, rock, metal, etc.)
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify): -Tree stump
- (45) Pavement surface irregularity (pothole, grooved, grates)
- (99) Unknown

9

99

9

9

99

Damage  
severity  
prevented  
testing

## AIRBAG VEHICLE IMPACT SUMMARY

## VEHICLE ROLE

- (0) Non-collision  
 (1) Striking Unit  
 (2) Struck Unit  
 (3) Both Striking and Struck  
 (9) Unknown

## MANNER OF LEAVING SCENE

- (1) Driven  
 (2) Towed-due to damage  
 (3) Towed - not for damage  
 (4) Towed - details unknown  
 (5) Abandoned  
 (9) Unknown

## NUMBER OF IMPACT EVENTS

- (8) 8 or more, (9) Unknown

## ROLLOVER (0) No Rollover

- (1) First Event  
 (2) Subsequent Event  
 (3) Yes, Unknown Event  
 (9) Unknown

## OVERRIDE/UNDERRIDE

- (1) No over/underride  
 (1) Override - 1st CDC  
 (3) - Other CDC  
 (4) Underride - 1st CDC  
 (6) - Other CDC  
 (9) Unknown

## AIRBAG VEHICLE DAMAGE

- CODES: (1) Yes, DAMAGED  
 (2) No Damage  
 (9) Unknown

## LEFT FRONT FENDER DAMAGE

## RIGHT FRONT FENDER DAMAGE

## CENTER TOP OF GRILLE DAMAGE

## FRONT BUMPER E.A. STATUS: Left

- (1) Normal Right  
 (2) Extended  
 (3) Partial Compression  
 (4) Complete Compression  
 (5) Not Applicable  
 (9) Unknown

## FIRST AIRBAG VEHICLE IMPACT:

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonCollision Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC 12 - RYES - 1OBJECT CONTACTED: Tree stump - 40.6cm (16.0 high)

## PRIMARY/DEPLOYMENT IMPACT:

## EVENT NUMBER

TOTAL DELTA-V 50 km/hLONGITUDINAL DELTA-V 1 km/h -

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonCollision Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC 12 - ECEN - 3OBJECT CONTACTED: 28.3cm (11.1") diameter tree

## NOTES:



## AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged\*  
 (2) No, Intact  
 (8) Not App. (Removed)  
 (9) Unknown

## AIRBAG MODULE

SENSORS: Left Front

Center Front

Right Front

Rear, Cowl

## DIAGNOSTIC MODULE

## WIRING

## KNEE DIVERter

INDICATION OF DISCONNECTED  
 OR LOOSE ELECTRICAL  
 CONNECTORS

## CONDITION OF DEPLOYED BAG

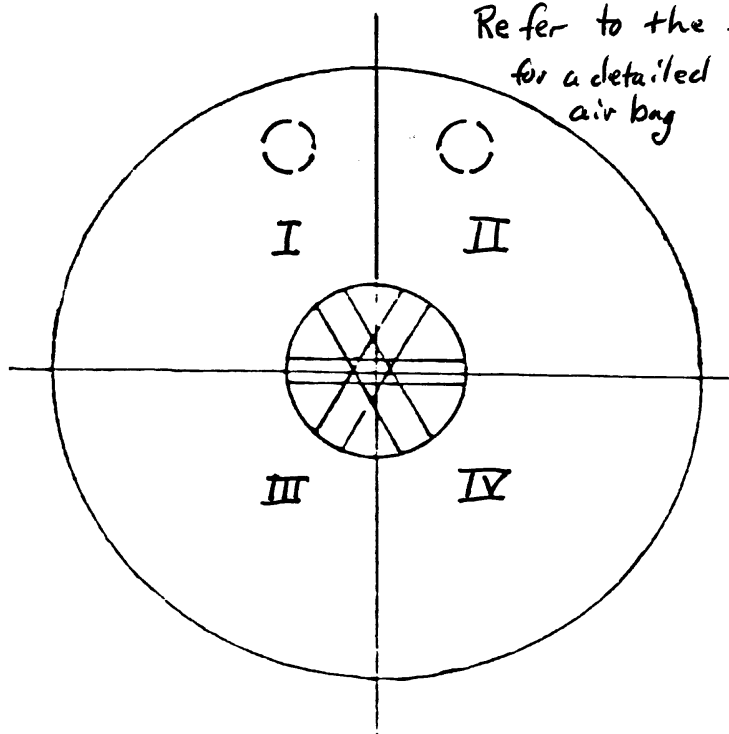
(1) Bag Intact  
 (2) Split or Torn\*  
 (3) Cut by Object In Impact\*  
 (4) Cut after Accident\*  
 (5) Other (e.g., burned)\*  
 (8) N/A (not deployed)  
 (9) Unknown

## \*DESCRIBE System and Bag Damage:

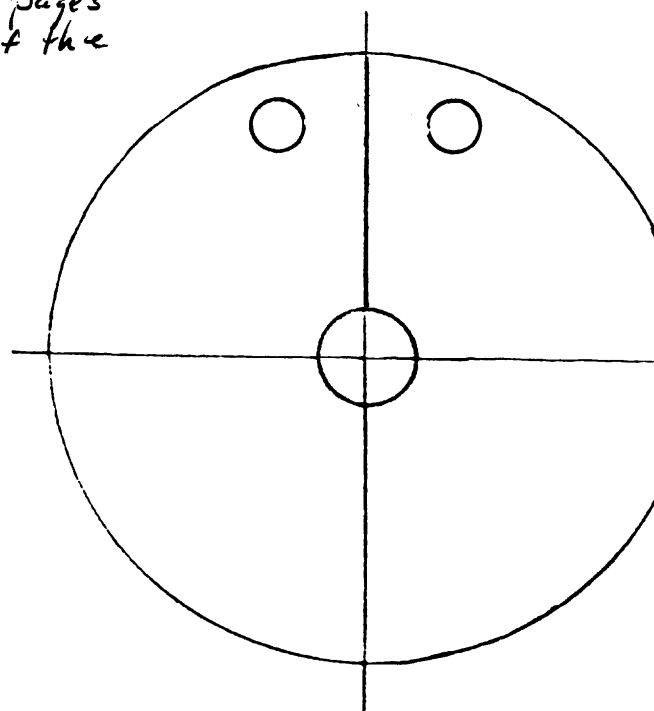
*Air bag was torn from the left vent port in the upper left quadrant on the instrument panel side of air bag (i.e., rear surface of bag) and extended downward along the left side for a distance of 38.1 cm (15.0"), ending in the lower left quadrant. The air bag fabric appeared to be frayed at the edge of the tear (i.e., pulled apart) without the presence of a sharp cut surface. A 11.4 cm (4.5") section of the torn edge located 15.2 cm (6.0") from the left vent port appeared to be lightly singed.*

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

Refer to the following pages  
 for a detailed drawing of the  
 air bag

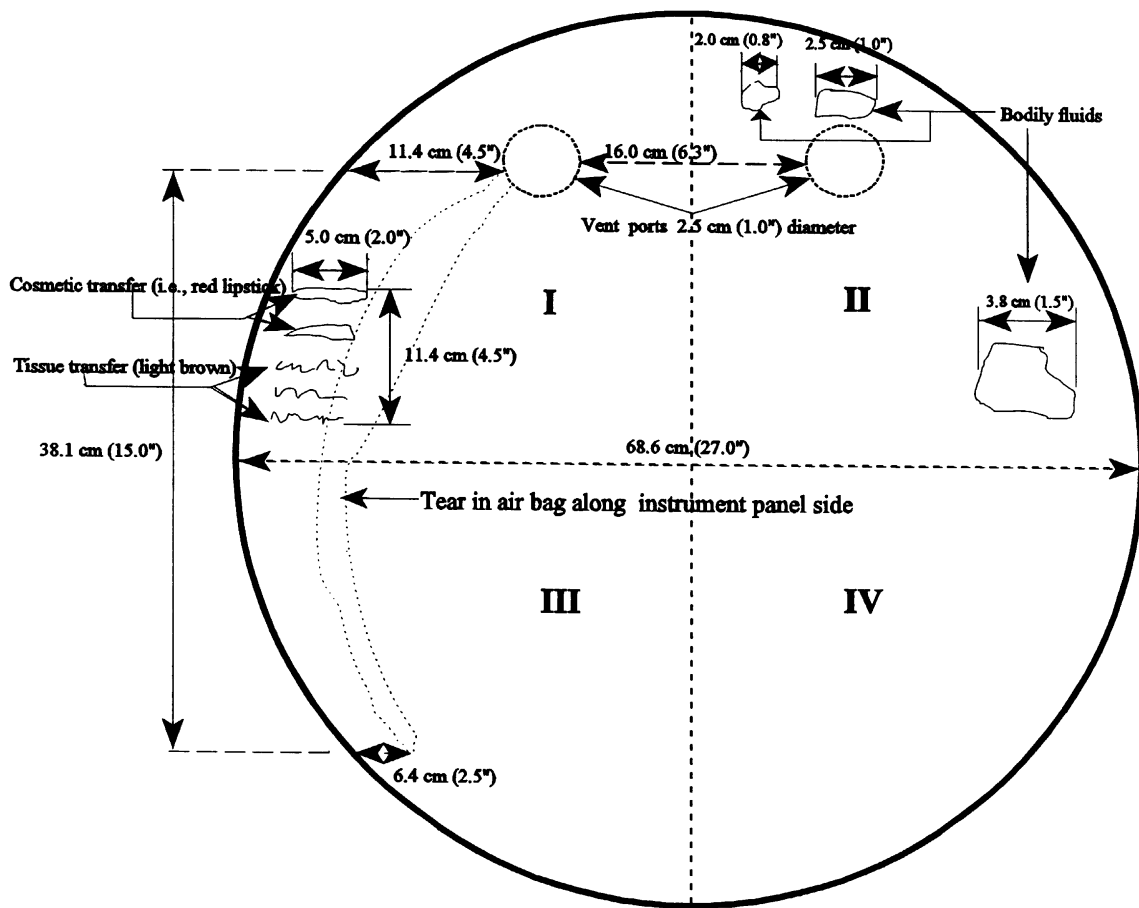


FRONT

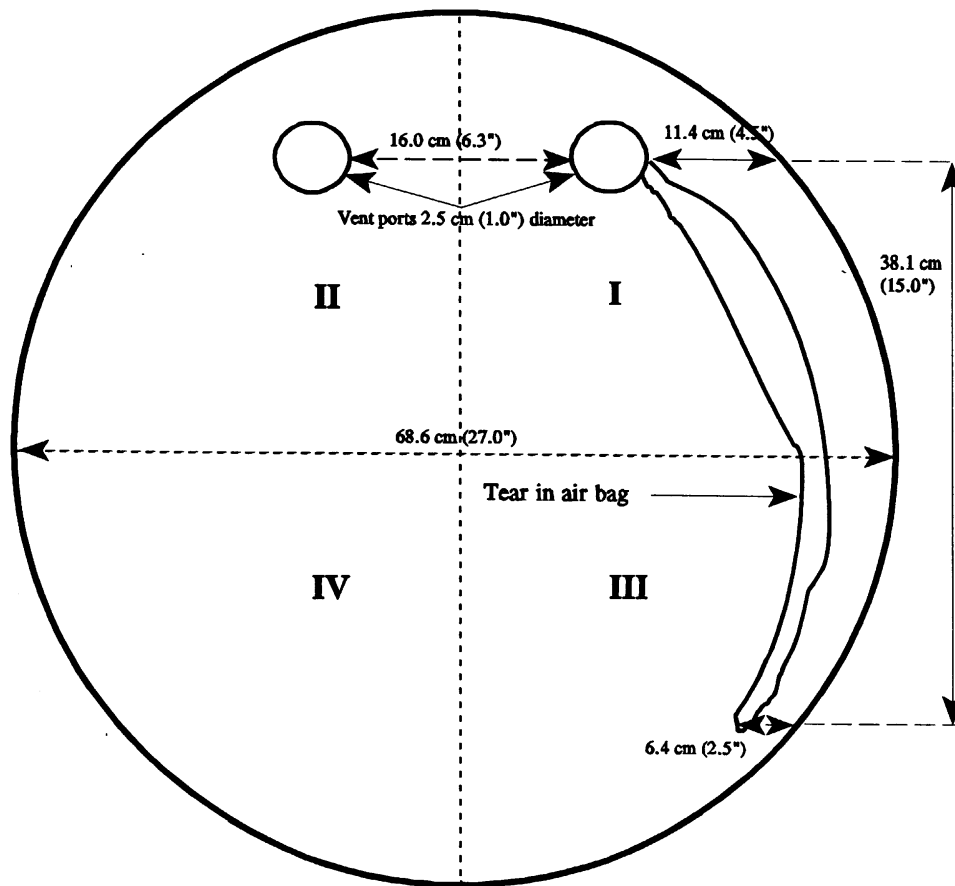


BOTTOM

BACK



**Frontal View of Non-tethered Air Bag**



**Instrument Panel (Reverse) View of Non-tethered Air Bag**

OCCUPANTS of AIRBAG CAR		NOTES:																				
NUMBER OF OCCUPANTS IN VEHICLE (8) 8 or more	<u>1</u>																					
NUMBER OF INJURED PERSONS	<u>1</u>																					
MAXIMUM AIS IN AIRBAG VEHICLE (0) No Injury (1-6) AIS Severity (7) Injured, Unknown Severity (9) Unknown	<u>    </u>																					
DRIVER AGE <u>80</u> SEX <u>F</u>																						
NUMBER OF DRIVER INJURIES	<u>18</u>																					
SOURCE OF BEST INJURY DATA	<u>1</u>																					
(0) Not Injured (1) Autopsy w/wo med. records (2) Hospital Medical Records (3) Emergency Room only (4) Private physician, Clinic (5) Lay Coroner Report (6) EMS Personnel (7) Interviewee (8) Police (9) Unknown																						
-----																						
MAXIMUM AIS BY BODY REGION																						
<table border="1"> <thead> <tr> <th>REGION</th> <th>MAX AIS</th> <th>CONTACT</th> </tr> </thead> <tbody> <tr> <td>Head/Neck/Face</td> <td><u>1</u></td> <td><u>    </u></td> </tr> <tr> <td>Chest</td> <td><u>5</u></td> <td><u>    </u></td> </tr> <tr> <td>Abdomen</td> <td><u>1</u></td> <td><u>    </u></td> </tr> <tr> <td>Leg/Hips</td> <td><u>2</u></td> <td><u>    </u></td> </tr> <tr> <td>Other (Arms)</td> <td><u>2</u></td> <td><u>    </u></td> </tr> <tr> <td>DRIVER MAXIMUM</td> <td><u>    </u></td> <td><u>    </u></td> </tr> </tbody> </table>	REGION		MAX AIS	CONTACT	Head/Neck/Face	<u>1</u>	<u>    </u>	Chest	<u>5</u>	<u>    </u>	Abdomen	<u>1</u>	<u>    </u>	Leg/Hips	<u>2</u>	<u>    </u>	Other (Arms)	<u>2</u>	<u>    </u>	DRIVER MAXIMUM	<u>    </u>	<u>    </u>
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Other (Arms)	<u>2</u>	<u>    </u>																				
DRIVER MAXIMUM	<u>    </u>	<u>    </u>																				
EJECTION: Extent <u>Not ejected</u>																						
Portal <u>                    </u>																						



**DRIVER BELT USAGE:** (1) Used (2) Not Used (9) Unknown 1

Evidence: Onscene police photographs, fabric transfer on belt surface (torso) from the driver's blouse, and abraded seatback rest fabric along the outboard surface of the driver's seat

**DRIVER POSTURE:** Any Comments Recorded (1) Yes, (2) No 2

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:

The driver's torso was positioned directly behind the steering wheel with her right hand on the steering wheel at the 3 o'clock position and the left hand at the 10-11 o'clock position.

**DRIVER FOREIGN OBJECTS:** Comments Recorded (1) Yes, (2) No 2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

There were no foreign objects in the vehicle or on the driver prior to the crash.

**DRIVER COMMENTS:** Comments Recorded (1) Yes, (2) No 2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

Fatal at scene.

**PASSENGER-AIRBAG CONTACT** (1) Yes, (2) No, (9) Unknown 1

Describe: The driver contacted the air bag as it was deploying during the second impact. Cosmetic and tissue transfers were noted in the left upper quadrant of the bag near the periphery. This location was indicative of the air bag packaging (i.e., the fold pattern) and the close proximity of the driver's face.

airbag.supp/jcm [redacted] /85

<b>Time &amp; Location</b>	DATE OF CRASH [REDACTED] 94		TIME OF CRASH 312 [ ] AM [X] PM		TIME OFFICER NOTIFIED 314 [ ] AM [X] PM		TIME OFFICER ARRIVED 316 [ ] AM [X] PM		INVEST AGENCY REPORT NUMBER [REDACTED]		HSMV CRASH REPORT NUMBER [REDACTED]	
	COUNTY / CITY CODE [REDACTED]		Feet or Miles [REDACTED]		N S E W [REDACTED]		CITY OR TOWN [REDACTED]		(Check if in City or Town)		COUNTY [REDACTED]	
	AT NODE NO. [REDACTED]		FEET / MILES FROM NODE NO. [REDACTED]		NEXT NODE NO. [REDACTED]		NO. OF LANES [REDACTED]		1 DIVIDED 2 UNDIVIDED [REDACTED]		ON STREET, ROAD OR HIGHWAY [REDACTED]	
<b>Vehicle</b>	AT INTERSECTION OF [REDACTED]		or [REDACTED]		FEET / MILES [REDACTED]		N S E W [REDACTED]		OF INTERSECTION OF [REDACTED]			
	DRIVER ACTION 1 Phantom 2 Hit & Run 3 N/A [REDACTED]		YEAR 92	MAKE Toyt	TYPE 01	USE 01	VEH. LICENSE NUMBER [REDACTED]	STATE [REDACTED]	VEHICLE IDENTIFICATION NUMBER [REDACTED]		POINT OF IMPACT CIRCLE AREA OF DAMAGE [REDACTED]	
	TRAILER OR TOWED VEHICLE INFORMATION [REDACTED]		TRAILER TYPE [REDACTED]		VEHICLE TRAVELING N S E W [REDACTED]		ON [REDACTED]	At [REDACTED]	Est. MPH 25	Posted Speed [REDACTED]	EST. VEHICLE DAMAGE 1 Disabling 2 Functional 3 No Damage [REDACTED]	EST. TRAILER DAMAGE [REDACTED]
<b>Vehicle</b>	INSURANCE COMPANY (LIABILITY OR PIP) [REDACTED]		POLICY NUMBER [REDACTED]		VEHICLE REMOVED BY: [REDACTED]		1 Tow Rotation List 2 Tow Owner's Request 3 Driver 4 Other [REDACTED]					
	OWNER'S FULL NAME (Check if Driver) [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY AND STATE [REDACTED]		ZIP CODE [REDACTED]					
	OWNER'S FULL NAME (Trailer or Towed Vehicle) [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY AND STATE [REDACTED]		ZIP CODE [REDACTED]					
<b>Pedestrian</b>	DRIVER (Exactly as on Driver License) / Pedestrian [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY & STATE / ZIP CODE [REDACTED]		DATE OF BIRTH [REDACTED]					
	HAZARDOUS MATERIALS BEING TRANSPORTED 1 Yes 2 No [REDACTED]		PLACARDED 1 Yes 2 No [REDACTED]		RECOMMEND RE-EXAM 1 Yes 2 No [REDACTED]		If YES, Explain in Narrative [REDACTED]		DRIVER'S PHONE NO. [REDACTED]			
	PASSENGER'S NAME (Additional on Continuation Page) [REDACTED]		CURRENT ADDRESS [REDACTED]		CITY & STATE / ZIP [REDACTED]		AGE [REDACTED]		LOC. [REDACTED]	INJ. [REDACTED]	S. EQUIP. [REDACTED]	EJECT [REDACTED]
<b>Vehicle</b>	DRIVER ACTION 1 Phantom 2 Hit & Run 3 N/A [REDACTED]		YEAR [REDACTED]	MAKE [REDACTED]	TYPE [REDACTED]	USE [REDACTED]	VEH. LICENSE NUMBER [REDACTED]	STATE [REDACTED]	VEHICLE IDENTIFICATION NUMBER [REDACTED]		POINT OF IMPACT CIRCLE AREA OF DAMAGE [REDACTED]	
	TRAILER OR TOWED VEHICLE INFORMATION [REDACTED]		TRAILER TYPE [REDACTED]		VEHICLE TRAVELING N S E W [REDACTED]		ON [REDACTED]	At [REDACTED]	Est. MPH [REDACTED]	Posted Speed [REDACTED]	EST. VEHICLE DAMAGE 1 Disabling 2 Functional 3 No Damage [REDACTED]	EST. TRAILER DAMAGE [REDACTED]
	INSURANCE COMPANY (LIABILITY OR PIP) [REDACTED]		POLICY NUMBER [REDACTED]		VEHICLE REMOVED BY: [REDACTED]		1 Tow Rotation List 2 Tow Owner's Request 3 Driver 4 Other [REDACTED]					
<b>Vehicle</b>	OWNER'S FULL NAME (Check if Driver) [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY AND STATE [REDACTED]		ZIP CODE [REDACTED]					
	OWNER'S FULL NAME (Trailer or Towed Vehicle) [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY AND STATE [REDACTED]		ZIP CODE [REDACTED]					
	DRIVER (Exactly as on Driver License) / Pedestrian [REDACTED]		CURRENT ADDRESS (Number and Street) [REDACTED]		CITY & STATE / ZIP CODE [REDACTED]		DATE OF BIRTH [REDACTED]					
<b>Pedestrian</b>	DRIVER LICENSE NUMBER [REDACTED]		STATE [REDACTED]	DL TYPE [REDACTED]	REC. ENC. [REDACTED]	BAC TEST 1 Blood 2 Breath 3 Urine 4 Refused 5 None [REDACTED]	RESULTS [REDACTED]	AL/DRUG [REDACTED]	PHYS DEF [REDACTED]	RES [REDACTED]	RACE [REDACTED]	SEX [REDACTED]
	HAZARDOUS MATERIALS BEING TRANSPORTED 1 Yes 2 No [REDACTED]		PLACARDED 1 Yes 2 No [REDACTED]		RECOMMEND RE-EXAM 1 Yes 2 No [REDACTED]		If YES, Explain in Narrative [REDACTED]		DRIVER'S PHONE NO. [REDACTED]			
	PASSENGER'S NAME (Additional on Continuation Page) [REDACTED]		CURRENT ADDRESS [REDACTED]		CITY & STATE / ZIP [REDACTED]		AGE [REDACTED]		LOC. [REDACTED]	INJ. [REDACTED]	S. EQUIP. [REDACTED]	EJECT [REDACTED]
<b>Code Information</b>	VEHICLE TYPE		VEHICLE USE		TRAILER TYPE		RESIDENCE (Driver Only)		PHYSICAL DEFECTS		ALCOHOL / DRUG USE	
	01 Automobile 02 Passenger Van 03 Pickup/Light Truck (2 rear tires) 04 Medium Truck (4 rear tires) 05 Heavy Truck (2 or more rear axles) 06 Truck Tractor (Cab) 07 Motor Home (RV) 08 Bus 09 Bicycle 10 Motorcycle 11 Moped 12 All Terrain Vehicle 13 Train 77 Other		01 Private Transportation 02 Commercial Passengers 03 Commercial Cargo 04 Public Transportation 05 Public School Bus 06 Private School Bus 07 Ambulance 08 Law Enforcement 09 Fire/Rescue 10 Military 11 Other Government 77 Other		01 Single Semi Trailer 02 Tandem Semi Trailers 03 Tank Trailer 04 Saddle Mount / Flatbed 05 Boat Trailer 06 Utility Trailer 07 House Trailer 08 Pole Trailer 09 Towed Vehicle 77 Other		1 County of Crash 2 Elsewhere in State 3 Non-Resident of State 4 Foreign 5 Unknown DL TYPE: 1 A 2 B 3 C 4 Chauffeur 5 E/Operator 6 E/Oper/Rest 7 None RACE: 1 White 2 Black 3 Hispanic 4 Other		1 No Defects Known 2 Eyesight Defect 3 Fatigue / Asleep 4 Hearing Defect 5 Illness 6 Seizure Epilepsy Blackout 7 Other Physical Defect		1 Not Drinking or Using Drugs 2 Alcohol - Under Influence 3 Drugs - Under Influence 4 Alcohol & Drugs - Under Influence 5 Had Been Drinking 6 Pending BAC Test Result	
	REQUIRED ENDORSEMENTS 1 Yes 2 No 3 NR		SEX 1 Male 2 Female		INJURY SEVERITY 1 None 2 Possible 3 Non-Incapacitating 4 Incapacitating 5 Fatal (Within 30 Days) 6 Non-Traffic Fatality		SAFETY EQUIPMENT IN USE 1 Not in Use 2 Seat Belt / Shoulder Harness 3 Child Restraint 4 Air Bag 5 Safety Helmet 6 Eye Protection		LOCATION (In Vehicle) 1 Front Left 2 Front Center 3 Front Right 4 Rear Left 5 Rear Center 6 Rear Right 7 In Body of Truck 8 Bus Passenger 9 Other EJECTED 1 No 2 Yes 3 Partial			

BEST AVAILABLE

DRIVER ACTION 1 Phantom 2 Hit & Run 3 N/A		YEAR	MAKE	TYPE	USE	VEH. LICENSE NUMBER	STATE	VEHICLE IDENTIFICATION NUMBER	POINT OF IMPACT CIRCLE AREA OF DAMAGE 18 Under 19 Over 20 Wind 21 Fire 22 Trailer										
TRAILER OR TOWED VEHICLE INFORMATION		TRAILER TYPE		VEHICLE TRAVELING N S E W		ON	AI	Est. MPH	Posted Speed	EST. VEHICLE DAMAGE 1 Disabling 2 Functional 3 No Damage	EST. TRAILER DAMAGE								
INSURANCE COMPANY (LIABILITY OR PIP)		POLICY NUMBER		VEHICLE REMOVED BY:		1 Tow Rotation List 2 Tow Owner's Request 3 Driver 4 Other		CITY AND STATE			ZIP CODE								
OWNER'S FULL NAME (Check if Driver)		CURRENT ADDRESS (Number and Street)		CITY AND STATE		ZIP CODE		OWNER'S FULL NAME (Trailer or Towed Vehicle)				ZIP CODE							
DRIVER (Exactly as on Driver License) / Pedestrian		CURRENT ADDRESS (Number and Street)		CITY AND STATE		ZIP CODE		DATE OF BIRTH											
DRIVER LICENSE NUMBER		STATE	EXP. DATE	BAC TEST 3 Urine 1 Blood 4 Refused 2 Breath 5 None	RESULTS	AL/DRUG	PHYS DEF	RES	RACE	SEX	INJ.	S. EQUIP.	E.						
HAZARDOUS MATERIALS BEING TRANSPORTED 1 Yes 2 No		PLACARDED 1 Yes 2 No		RECOMMEND RE-EXAM 1 Yes 2 No		II YES Explain in Narrative		DRIVER'S PHONE NO.											
PASSENGER'S NAME (Additional on Continuation Page)		CURRENT ADDRESS		CITY & STATE / ZIP CODE		AGE		LOC.	INJ.	S. EQUIP.	E.								
# PROPERTY DAMAGED - OTHER THAN VEHICLES		EST. AMOUNT		OWNER'S NAME		ADDRESS		CITY		STATE	ZIP								
#1 tree		\$ 50		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]	[REDACTED]								
#2		\$		[REDACTED]		[REDACTED]		[REDACTED]		[REDACTED]	[REDACTED]								
CONTRIBUTING CAUSES - DRIVER / PED																			
01 No Improper Driving / Action 02 Careless Driving 03 Failed to Yield Right-of-Way 04 Improper Backing 05 Improper Lane Change 06 Improper Turn 07 Alcohol-Under Influence 08 Drugs-Under Influence 09 Alcohol & Drugs-Under Influence 10 Followed Too Closely 11 Disregarded Traffic Signal 12 Exceeded Safe Speed Limit 13 Disregarded Stop Sign 14 Failed to Maintain Equip. / Vehicle 15 Improper Passing 16 Drove Left of Center 17 Exceeded Stated Speed Limit 18 Obstructing Traffic				VEHICLE DEFECT 01 No Defects 02 Def. Brakes 03 Worn / Smooth Tires 04 Defective / Improper Lights 05 Puncture / Blowout 06 Steering Mech. 07 Windshield Wipers 08 Equipment / Vehicle Defect 77 All Other (Explain in Narrative)				VEHICLE MOVEMENT 01 Straight Ahead 02 Slowing / Stopped / Stalled 03 Making Left Turn 04 Backing 05 Making Right Turn 06 Changing Lanes 07 Entering/Leaving Parking Space 08 Properly Parked 09 Improperly Parked 10 Making U-Turn				VEHICLE SPECIAL FUNCTIONS 1 None 2 Farm 3 Police Pursuit 4 Recreational 5 Emergency Operator 6 Construction / Maintenance							
19 Improper Load 20 Disregarded Other Traffic Control 21 Driving Wrong Side of Way 22 Fleeting Police 23 Vehicle Modified 77 All Other (Explain)				LOCATION ON ROADWAY 1 On Road 2 Not On Road 3 Shoulder 4 Median 5 Turn Lane / Safety Zone				PEDESTRIAN ACTION 01 Crossing Not at Intersection 02 Crossing at Mid-block Crosswalk 03 Crossing at Intersection 04 Waiting Along Road With Traffic 05 Walking Along Road Against Traffic 06 Working on Vehicle in Road 07 Other Working in Road 08 Standing/Playing in Road 09 Standing in Pedestrian Island 77 All Other (Explain)				LOCATION TYPE 1 Primarily Business 2 Primarily Residential 3 Open Country							
FIRST / SUBSEQUENT HARMFUL EVENT																			
01 Collision With MV in Transport (Rear-end) 02 Collision With MV in Transport (Head-on) 03 Collision With MV in Transport (Angle) 04 Collision With MV in Transport (Left Turn) 05 Collision With MV in Transport (Right Turn) 06 Collision With MV in Transport (Sideswipe) 07 Collision With MV in Transport (Backed Into) 08 Collision With Parked Car 09 Collision With MV on Other Roadway 10 Collision With Pedestrian 11 Collision With Bicycle 12 Collision With Bicycle (Bike Lane) 13 Collision With Moped 14 Collision With Train				15 Collision With Animal 16 MV Hit Sign/Sign Post 17 MV Hit Utility Pole/Light Pole 18 MV Hit Guardrail 19 MV Hit Fence 20 MV Hit Concrete Barrier Wall 21 MV Hit Bridge/Pier/Abutment/Rail 22 MV Hit Tree/Shrubbery 23 Collision With Construction Barricade/Sign 24 Collision With Traffic Gate 25 Collision With Crash Attenuators 26 Collision With Fixed Object Above Road 27 MV Hit Other Fixed Object 28 Collision With Moveable Object On Road				29 MV Ran Into Ditch/Culvert 30 Ran Off Road Into Water 31 Overturned 32 Occupant Fell From Vehicle 33 Tractor/Trailer Jackknifed 34 Fire 35 Explosion 77 All Other (Explain)				ROAD SYSTEM IDENTIFIER 01 Interstate 02 U.S. 03 State 04 County 05 Local 06 Turnpike/Toll 07 Forest Road 77 All Other				LIGHTING CONDITION 01 Daylight 02 Dusk 03 Dawn 04 Dark (Street Light) 05 Dark (No Street Light) 68 Unknown			
CONTRIBUTING CAUSES - ROAD				CONTRIBUTING CAUSES - ENVIRONMENT				TRAFFIC CONTROL				SITE LOCATION				TRAFFICWAY CHARACTER			
01 No Defects 02 Obstruction With/Without Warning 03 Road Under Repair/Construction 04 Loose Surface Materials 05 Shoulders - Soft/Low/High 06 Holes/Ruts/Unsafe Paved Edge 07 Standing Water 08 Worn/Polished Road Surface 77 All Other (Explain)				01 Vision Not Obscured 02 Inclement Weather 03 Parked / Stopped Vehicle 04 Trees / Crops / Bushes 05 Load on Vehicle 06 Building / Fixed Object 07 Signs / Billboards 08 Fog 09 Smoke 10 Glare 77 All Other (Explain)				01 No Control 02 Special Speed Zone 03 Traffic Signal 04 Stop Sign 05 Yield Sign 06 Flashing Light 07 Railroad Signal 08 Officer / Guard / Flagman 09 Posted No U-Turn 10 School Zone				01 Not At Intersection / RR X'ing / Bridge 02 At Intersection 03 Influenced By Intersection 04 Driveway Access 05 Railroad Crossing 06 Bridge 07 Entrance Ramp 08 Exit Ramp 09 Parking Lot - Public 10 Parking Lot - Private 11 Private Property 77 All Other (Explain)				1 Straight-Level 2 Straight-Upgrade / Downgrade 3 Curve-Level 4 Curve-Upgrade / Downgrade TYPE SHOULDER 1 Paved 2 Unpaved 3 Curb			
VIOLATOR		FL STATUTE NUMBER		NAME		CHARGE		CITATION #											
PENDING																			

EMS INFO FATALS ONLY	TIME EMS NOTIFIED 314	AM <input type="checkbox"/> PM <input checked="" type="checkbox"/>	TIME EMS ARRIVED 321	AM <input type="checkbox"/> PM <input checked="" type="checkbox"/>	COUNTY / CITY CODE	DATE OF CRASH	INVEST. AGENCY REPORT NUMBER	HSMV CRASH REPORT NUMBER
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Vehicle 1 of section 1 was eastbound on [REDACTED] when the vehicle left the roadway and struck a tree that was approximately 3 feet off of the roadway. Vehicle 1 then continued eastbound striking a second tree approximately 20 feet east of the first tree. Vehicle 1 came to rest against the second tree. EMS responded to the scene and pronounced driver 1 dead. Vehicle 1 was removed from the scene by [REDACTED] Towing. Scene was turned over to the Traffic Homicide Investigators.

77 Pending investigation by Traffic Homicide Investigators

WITNESS - NAME

ADDRESS

CITY &amp; STATE

ZIP

WITNESS - NAME

ADDRESS

CITY &amp; STATE

ZIP

FIRST AID GIVEN BY - NAME

1 Physician or Nurse  
2 Paramedic or EMT  
3 Police Officer  
4 Certified 1st Aider  
5 Other

2

INJURED TAKEN TO:

N/A

BY - NAME

N/A

WAS  
INVESTIGATION  
MADE AT SCENE? 1 YES 2 NO WHERE?

☒ ☐

IS INVESTIGATION  
COMPLETE? 1 YES 2 NO WHY?

☐

Fatal

DATE OF REPORT

PHOTOS  
TAKEN?

1 YES 2 NO

☒☐

3 INVEST. AGENCY

4 OTHER

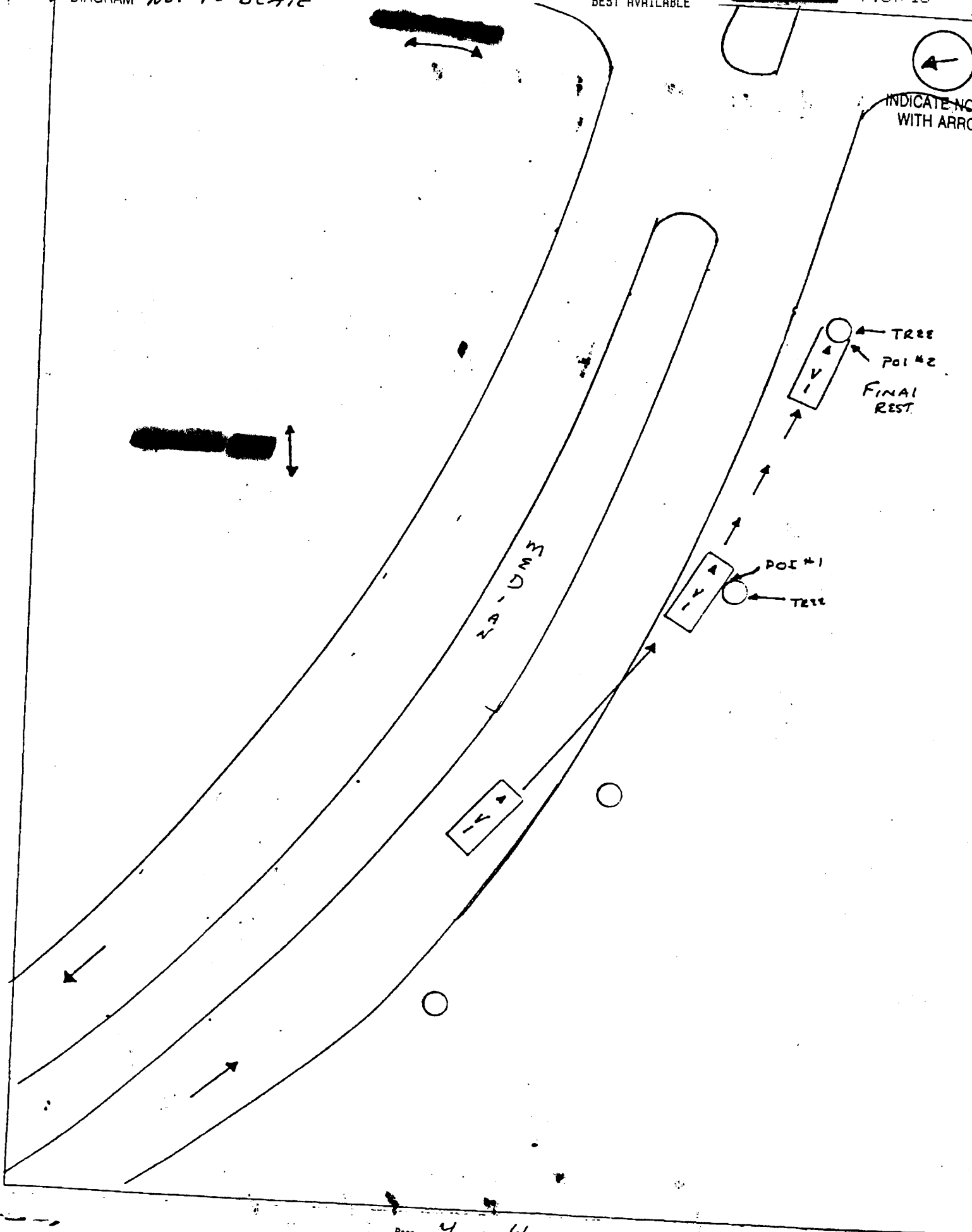
FHP SO CPD OTHER

☐☐☒☐

INVESTIGATOR - RANK &amp; SIGNATURE

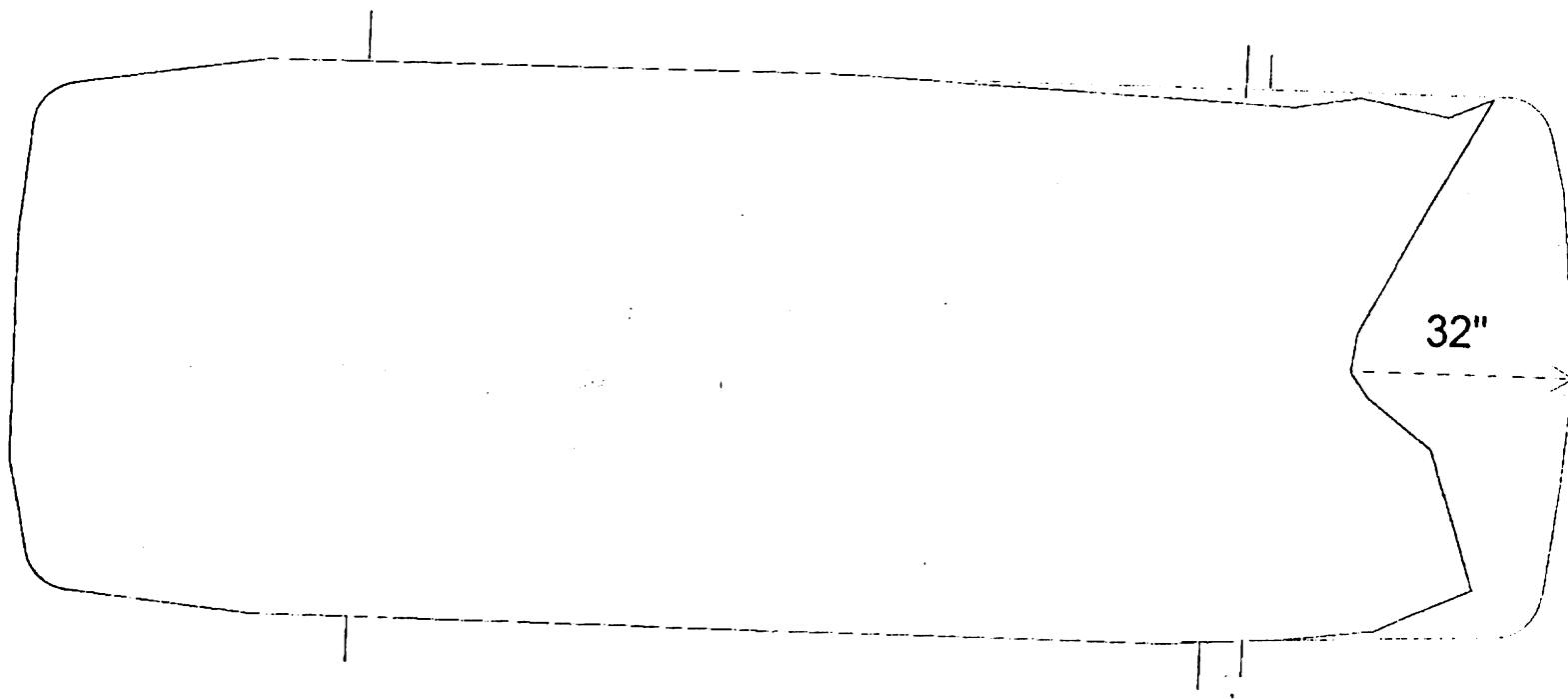
ID / BADGE NUMBER

DEPARTMENT





CASE NUMBER [REDACTED]



32"

BEST AVAILABLE

ME CASE# 94-[REDACTED]

NAME: [REDACTED]

AGE.: 60

DOB.: [REDACTED]

RACE: WHITE

SEX.: F

REPORTED BY: [REDACTED]

TIME: 15:15

RESIDENCE... [REDACTED]

INCIDENT... [REDACTED]

TIME: 15:30

DEATH..... [REDACTED]

TIME: 15:30

Narrative/Summary

On [REDACTED] at approximately 3:15pm the above named was the restrained operator of a 92 Toyota Camary traveling east in the [REDACTED] block of [REDACTED]. At a point 75 feet south of [REDACTED] the vehicle left the road surface on the south shoulder and collided head-on into a tree. Upon the arrival of emergency personnel, the victim was found to be an obvious DOA at 3:30PM. According to the investigation conducted by Officer [REDACTED] the driver's air bag was activated. Her seat belt was in use but the shoulder strap was under her left arm. The conditions were dry and clear. The posted speed is 25 MPH. Officer [REDACTED] stated that there was no evidence of evasive action (skid marks, etc). He theorized that it was possible that the driver may have become ill while driving. He also stated that the windshield was splintered where traces of the victim's scalp were viewed.

NOK [REDACTED]

Narrative/Summary Prepared by: Richard N Rodriguez

Cause of Death.: BLUNT FORCE TRAUMA TO CHEST

Due To:

Due To:

Contributory:

Manner of Death: TRAFFIC

Autopsy at 09:00 ON [REDACTED]

9:00 a.m.

EXTERNAL EXAMINATION:

The body is that of a 4 foot 11 inch tall 143 pound well developed well nourished white female whose appearance is consistent with an age of 80 years. The body is in good condition. The skin temperature is cool. There is moderate rigor and fixed purple dorsal lividity.

The head is symmetrical and the scalp is atraumatic. The scalp hair is gray and up to 5 inches long. There is facial trauma to be described below. The eyes are brown with pale conjunctivae and 4 mm pupils. The ears are pierced. The teeth are in good repair with a partial dental prosthesis on the lower jaw. The oral mucosa and gums have no lesions. The neck has no masses or deformities.

The shoulders are symmetrical, the chest has no scars. The breasts have no masses. The abdomen is slightly protuberant without masses, scars, or fluid. The external genitalia are unremarkable. The back is free of lesions or deformities.

EVIDENCE OF RECENT INJURIES:

There are superficial abrasions over the nose, the left cheek, both lips, and along the margins of the mandible and including the chin. Abrasions are also on the left side of the neck angled downward to the manubrium. The chest has abrasions above and medial to the right breast. A 5cm in diameter poorly circumscribed area of ecchymoses on the medial side of the left breast. Below the left breast, angling slightly downward and to the right are

9:00 a.m.

linear superficial abrasions. These extend almost to the right mid-clavicular line. Just below this is a moderately distinct band of ecchymoses extending from the left anterior axillary line and angling downward and to the right. This extends as far as the right anterior superior iliac spine. Within the chest cavity are fractures of ribs 1 - 10 laterally, both right and left. There is free blood and liquefaction of fat within the subcutaneous tissue of the chest and abdominal wall. Each pleural cavity contains approximately 1 liter of blood. The aorta is completely transected at the distal portion of the arch. The thoracic spine is separated between the 3rd and 4th vertebrae.

The right elbow has a 3 cm in diameter area of bruising on the medial surface. Left forearm has a closed fracture just proximal to the wrists and a 1 cm horizontal laceration over the dorsum of the left hand. The fingers and hands are otherwise unremarkable. The right leg has an open fracture dislocation of the tibio-talar joint. In addition there is a 2 cm in diameter bruise of the medial side of the right knee. Old diagonal surgical scars cross both knees.

#### INTERNAL EXAMINATION:

The sternum and clavicles are intact. The muscle in the chest wall and abdomen appears unremarkable except for some thinning of the intercostal muscles due to trauma on the left side. The abdominal panniculus is 3 cm thick at the umbilicus. There is no aromatic odor in the body cavities. Normal visceral relationships

POLICE ID. 94 7:54 NO.  
stenosing mural calcifications is present over the proximal 1.5 cm of the right and left main coronary arteries. Atheromatous change within the aorta is mild.

RESPIRATORY SYSTEM:

The right and left lungs are 300 and 240 grams respectively and have generally smooth pleural surfaces, ranging from tan to gray maroon. There is marked anthracotic pigment on the surface.

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9:00 a.m.

The lungs are slightly congested in the basilar portions but are otherwise unremarkable. Cut surface is free of masses, cavities, or hematoma. The main bronchi are patent and free of mucous plugging. The pulmonary arteries are free of thrombi.

**HEPATOBIILIARY SYSTEM:**

The 1190 gram liver has a normal configuration with a smooth capsule and sharp edges. The cut surface has normal red-brown parenchyma which is free of focal lesions. The gall bladder contains 10 mm of viscid green bile and is free of stones. The biliary system is patent.

**HEMOLYMPHATIC SYSTEM:**

The 90 gram spleen has a small capsular laceration on the posterior tip. Approximately 20 mm of clotted blood is in the perisplenic tissue around it. The remainder of the capsule is unremarkable. On cut surface the soft red-purple pulp is homogenous and has inconspicuous lymphoid follicles. Lymph nodes in the mediastinum appear somewhat enlarged and are homogenous and anthracotic on cut section.

**GASTROINTESTINAL TRACT:**

The esophagus has a smooth gray white mucosa without lesions or varices. The stomach contains 125 ml of brown freshly ingested food containing 2 cm long spaghetti type noodles. The mucosa is unremarkable. The large and small intestines have scattered focal areas of serosal hemorrhage but are otherwise unremarkable and the appendix is intact.

BEST AVAILABLE

9:00 a.m.

UROGENITAL SYSTEM:

The right and left kidneys are 190 and 120 grams respectively and have smooth red brown cortical surfaces. The cut surface is free of lesions and the corticomedullary junctions are distinct. The calyces are unremarkable and the ureters are free of distention or obstruction. The renal arteries and veins are unremarkable. The bladder contains no urine and the mucosa is unremarkable. The uterus is of the normal size with a homogenous myometrium. The endometrial cavity is also unremarkable. The ovaries are small, white, and firm. The fallopian tubes and cervix are also unremarkable.

ENDOCRINE SYSTEM:

The thyroid gland is red-brown, normal in size, and free of masses. The pancreas is soft, yellow-brown, and lobulated. The adrenals have very thin yellow-orange cortices and soft brown medullae.

MUSCOSKELETAL SYSTEM:

The vertebral column also has prominent lipping of the vertebrae.

HEAD AND C. N. S.:

The subgaleal tissues are free of hematoma. The calvarium and base of the skull are intact. The meninges are free of extradural or subdural hematoma. The leptomeninges are transparent and free of staining. The surface of the 1140 gram brain is well formed and symmetrical without external lesions, trauma, or swelling. There

BEST AVAILABLE

9:00 a.m.

is mild gyral atrophy. Sections are of the usual consistency and free of blood, masses, or defects. The ventricles appear slightly enlarged. The cerebellum and brain stem are free of trauma or lesions. The vessels at the base of the brain are patent and free of lesions.

Z

TOTAL P.08

☐ CITY ☐ COUNTY  
DATE ☐ TIME ☐ AM ☐ PM

OFFICE OF THE MEDICAL EXAMINER

☐ COMMENT ☐ DICTATED

NAME ☐ LAST ☐ FIRST ☐ MI ☐ DOB ☐ AGE ☐

HEIGHT 59 in  
WEIGHT 143 pounds

☒ WHITE ☐ BLACK ☐ INDIAN ☐ OTHER ☒ CLOTHED ☐ PARTLY CLOTHED ☐ NAKED  
☐ SCARS ☐ TATOO ☐ OTHER IDENTIFYING MARKS  
PROBABLE CAUSE OF DEATH \_\_\_\_\_

PRESERVATION

- ☒ good
- ☐ early decomposition
- ☐ putrid
- ☐ skeletonized

TEMPERATURE

- ☐ warm
- ☐ cool
- ☐ cold
- ☐ frozen

RIGOR

- ☐ absent
- ☐ marked
- ☒ moderate
- ☐ severe

LIVOR

- ☐ absent
- ☒ purple
- ☐ ventral
- ☒ fixed
- ☐ pink
- ☒ dorsal
- ☐ non-fixed

NUTRITION

- ☒ adequate
- ☐ cachectic
- ☐ obese

- ☐ JAUNDICE
- ☐ ASCITES
- ☐ EDEMA
- ☐ CYANOSIS

EYES

- ☒ brown
- ☐ hazel
- ☐ blue
- ☐ other
- ☐ cataract
- ☐ glaucoma
- ☐ other

PUPILS

LEFT 4 cm RIGHT 4 cm

HAIR

- ☐ black
- ☐ red
- ☐ blond
- ☐ gray
- ☐ brown
- ☐ blond
- ☐ red
- ☐ other

- ☐ UPPER TEETH
- ☐ LOWER TEETH

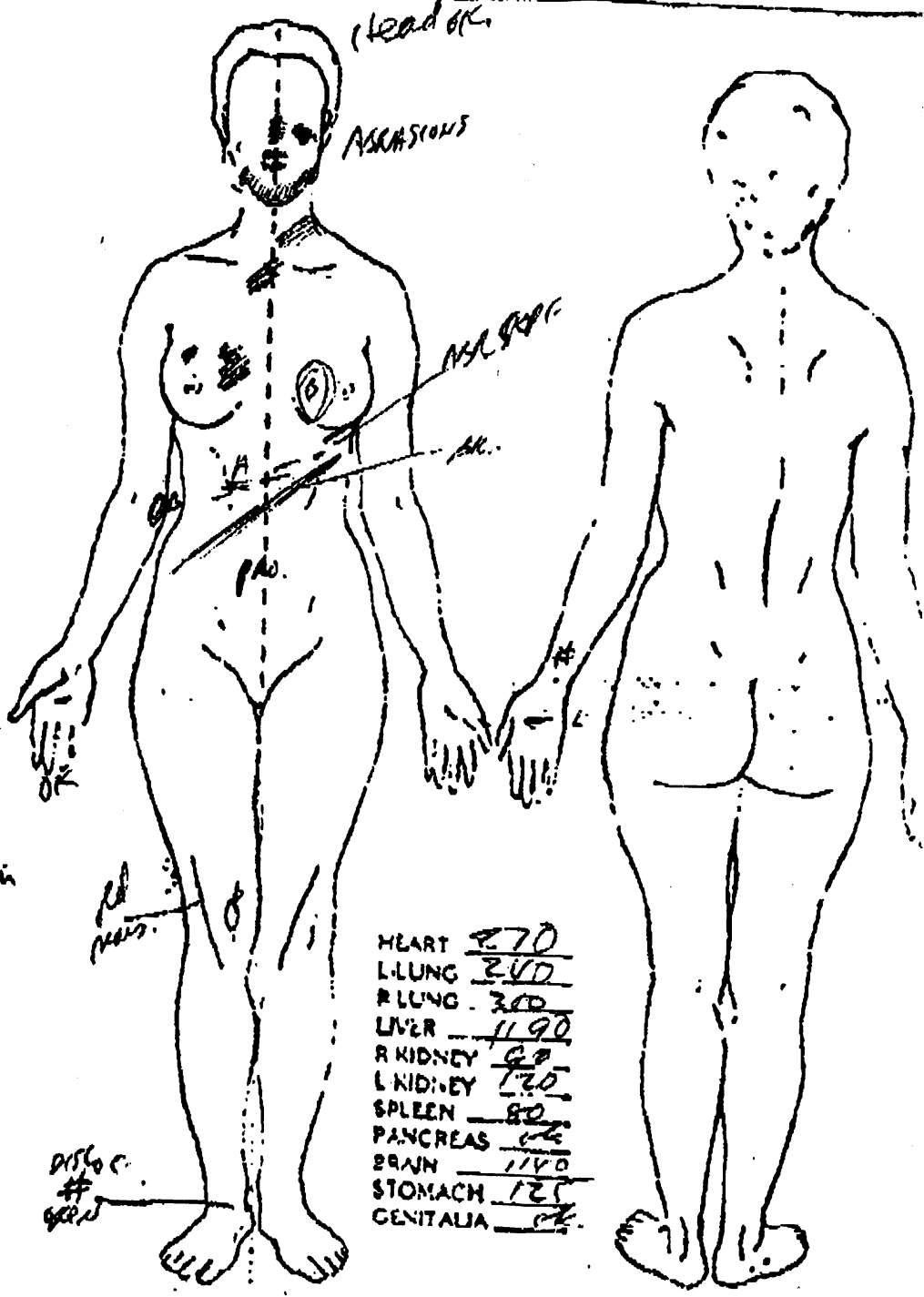
EXTERNAL SIGNS OF TRAUMA

- ☒ contusions (C)
- ☒ abrasions (A)
- ☐ lacerations (L)
- ☐ punctures (P)
- ☐ fractures (F)
- ☐ dislocations (D)
- ☐ other

TOXICOLOGY: ☐ heart blood ☐ urine ☐ CSF ☐ other

OTHER TRACE EVIDENCE

PROSECUTOR



HEART	270
L LUNG	240
R LUNG	300
LIVER	1190
R KIDNEY	90
L KIDNEY	120
SPLEEN	80
PANCREAS	120
BRAIN	1140
STOMACH	125
GENITALIA	120

SEX: Female  
AUTOPSY DATE: [REDACTED]  
PROSECTOR: [REDACTED]

RACE: White

AGE: 80  
TIME: 9:00 a.m.

AUTOPSY DIAGNOSIS:

- I. BLUNT CHEST TRAUMA WITH:
  - a. Transected aorta.
  - b. Transected thoracic spine.
  - c. Bilateral hemothorax.
  - d. Splenic capsular laceration.
  - e. Multiple rib fractures.
- II. FRACTURE DISLOCATION OF THE RIGHT TIBIO-TALAR JOINT
- III. MULTIPLE CUTANEOUS ABRASIONS AND ECCHYMOSES
- IV. FRACTURE OF RIGHT WRIST
- V. SPINAL OSTEOARTHRITIS

OPINION:

[REDACTED] a 80 year old white female died as a result of blunt chest trauma which occurred as a result of a motor vehicle accident.

The manner of death determined to be ACCIDENTAL.

[REDACTED]

LGD:vlg

[REDACTED]



Office of the [REDACTED] Medical Examiner  
Toxicology ReportToxicology Case Number [REDACTED]  
Submitting Agency [REDACTED] Medical Examiner's Office

Submitting Agency Number [REDACTED]

[REDACTED] 0 year old White F [REDACTED]

Specimens Collected: [REDACTED]

Specimens Received: [REDACTED]

Report Completed: [REDACTED]

Specimen Receipt: [REDACTED]

Specimens Received: Blood(heart), Gastric, Liver, Bile, Brain

Test Requested: Alcohol, Drug Screen, Carbon Monoxide

Specimen	Procedure	Drug	Results	Amount
Blood(heart)	GC		drugs not detected	
Blood(heart)	GC	Ethanol	none detected	
Blood(heart)	GC		drugs not detected	